

City Of Martinsburg, West
Virginia
Policemen's Pension and
Relief Fund

**Actuarial Valuation Report
for the Year Beginning July 1, 2017**



September 20, 2018

Mr. Mark Spickler
Finance Director
232 North Queen Street
Martinsburg, WV 25401

Police Officer Paul Lehman
Pension Board Secretary
City of Martinsburg Policemen's Pension and Relief Fund

**Subject: City of Martinsburg Policemen's Pension and Relief Fund
Actuarial Valuation Report for the Year Beginning July 1, 2017**

Dear Mr. Spickler and Police Officer Lehman:

Upon the request of the Municipal Pensions Oversight Board, we have performed an actuarial valuation as of July 1, 2017, for the City of Martinsburg, West Virginia Policemen's Pension and Relief Fund ("Fund" or "Plan"). This actuarial valuation has been performed in accordance with the West Virginia Code Chapter 8, Article 22, Sections 16 through 28, inclusive.

In accordance with West Virginia Code §8-22-20, this actuarial valuation report provides information on:

- The sponsor's funding requirements for the fiscal year ending June 30, 2019, based on the selected funding policy, i.e. the Alternative funding policy as defined in West Virginia Code §8-22-20(c)(1)
- The Fund's eligibility to receive an allocation of the premium tax for the fiscal year ending June 30, 2019
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2019

This report also provides illustrative projections under two other funding policies available to the sponsor – the Optional funding policy as defined in West Virginia Code §8-22-20(e), and the Conservation funding policy as defined in West Virginia Code §8-22-20(f).

West Virginia Code §8-22-20 (c)(4), requires (1) a review of the actuarial assumptions and methods at least once every five years and (2) that the Actuary shall provide a report to the oversight board with recommendations on any changes to the actuarial process. Consequently, an experience review was performed for the period July 1, 2009, through June 30, 2014. The assumptions and methods were recommended by the actuary, in the report *2016 Experience Review for the Years July 1, 2009, to July 1, 2014*, approved by the Municipal Pensions Oversight Board, and became effective for the actuarial valuation as of July 1, 2015.

This actuarial valuation is based upon:

Plan Member Data – Data for active members and persons receiving benefits from the Fund as of June 30, 2017, was provided by the Fund's staff. We have tested this data for reasonableness.

Asset Values – A reconciliation of market value of assets during the plan year ended June 30, 2017, and a list of assets held as of June 30, 2017, by investment category, were provided by the Fund.

Plan Provisions – A summary of the key plan provisions valued are set forth in Section VII of the report: Summary of Principal Plan Provisions.

Actuarial Methods – Fund liabilities were measured using the Entry-Age Normal Actuarial Cost Method. The actuarial valuation was based on the market value of assets. The actuarial methods used in the actuarial valuation are set forth in Section VI of the report: Actuarial Assumptions and Methods.

Actuarial Assumptions – The actuarial assumptions used include a discount rate of 4.50%. The actuarial assumptions used in the actuarial valuation are set forth in Section VI of the report: Actuarial Assumptions and Methods.

The actuarial valuation results disclosed in this report are based on the data and actuarial assumptions and methods described above, and upon the provisions of the Plan as of the actuarial valuation date. Based on these items, we certify these results to be true and correct.

To the best of our knowledge, this actuarial statement is complete and accurate, and has been prepared in accordance with generally accepted actuarial principles and practices.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purpose stated.



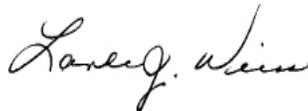
The signing actuaries are independent of the plan sponsor.

Alex Rivera and Lance J. Weiss are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

Sincerely,



Alex Rivera, FSA, EA, MAAA, FCA
Senior Consultant



Lance J. Weiss, EA, MAAA, FCA
Senior Consultant

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SECTION I

ACTUARIAL VALUATION RESULTS AS OF JULY 1, 2017

Executive Summary

Upon the request of the Municipal Pensions Oversight Board (MPOB), we have performed an actuarial valuation as of July 1, 2017, for the City of Martinsburg, West Virginia Policemen's Pension and Relief Fund ("Fund" or "Plan").

In accordance with West Virginia Code §8-22-20, this actuarial valuation report provides information on:

- The sponsor's funding requirements for the fiscal year ending June 30, 2019
- The Fund's eligibility to receive an allocation of the premium tax for the fiscal year ending June 30, 2019
- The Fund's eligibility to provide supplemental benefits for the plan year beginning July 1, 2019

This report is based on the sponsor's election to finance benefit obligations using the Alternative funding policy as defined in West Virginia Code §8-22-20 (c)(1).

The key features of the Alternative funding policy, effective as of June 30, 1991, are summarized below:

- The sponsor's initial Alternative contribution effective for plan year 1991 is the greater of 107% of the amount contributed for the plan year ended June 30, 1990, or the highest five-year average of contributions made since 1984.
- Sponsor contributions made in subsequent years cannot be less than 107% of the contribution made in the prior fiscal year.
- The actuary must certify in writing that the Fund is projected to be solvent under the Alternative funding policy for the next consecutive 15-year period. A plan is deemed to be solvent if projected assets are greater than zero over the 15-year projection period.
- Beginning September 1, 2003, any municipality which elected the Alternative funding policy has the option of reverting to the Standard funding policy if the plan's funded ratio is greater than 80%. In this case, the Standard minimum contribution equals the normal cost plus the amortization of the unfunded liability over a period of not more than 40 years commencing from July 1, 1991, less the allocable portion of the state premium tax fund for municipal pension and relief funds.
- Plan members hired before January 1, 2010, contribute 7.0% of pay; however, if elected by the Board of Trustees of the Plan, member contributions may be increased up to 9.5% of pay. The Board elected to increase member contributions to 8.0% of pay. Employees hired on or after January 1, 2010, contribute 9.5% of pay.
- The Plan also receives premium tax allocation assigned to the Fund for the plan year.

This report also provides illustrative projections under two other funding policies available to the sponsor – the Optional funding policy as defined in West Virginia Code §8-22-20(e), and the Conservation funding policy as defined in West Virginia Code §8-22-20(f).

The sponsor made a contribution of \$622,400 for the fiscal year end June 30, 2017. The sponsor's minimum statutory contribution for fiscal year 2017 was \$547,400, based on the Alternative funding contribution in the July 1, 2016 valuation report. The additional contributions in excess of the statutory minimum slightly improved the funded status of the pension fund.

Executive Summary (Continued)

The following table provides the Plan's funded status:

Funded Status as of:	July 1, 2017
Assets	\$8,337,546
Actuarial Accrued Liability	\$37,803,918
Unfunded Actuarial Accrued Liability	\$29,466,372
Funded Ratio	22.05%

The following table provides the employer contributions for the fiscal year ended June 30, 2018, under the Alternative funding policy:

Employer Contributions for FYE:	June 30, 2018
FYE 06/30/2017 Alternative Contribution	\$547,400
7% Increase in Alternative Contribution	\$38,318
FYE 06/30/2018 Alternative Contribution	\$585,718
Additional Contribution	\$0
Final FYE 06/30/2018 Alternative Contribution	\$585,718

The following table provides the estimated employer contributions for the fiscal year ending June 30, 2019, under the Alternative funding policy:

Estimated Employer Contributions for FYE:	June 30, 2019
FYE 06/30/2018 Alternative Contribution	\$585,718
7% Increase in Alternative Contribution	\$41,000
FYE 06/30/2019 Alternative Contribution	\$626,718
Additional Contribution to satisfy 15-year Solvency Test on an Open Group Basis (to receive 100% of the State Premium Tax Allocation)	\$0
Estimated Employer Contribution for FYE 06/30/2019 to receive 100% of the State Premium Tax Allocation	\$626,718
Additional Contribution to satisfy 15-year Solvency Test on a Closed Group Basis (to grant Supplemental Benefits; i.e. COLA increases)	\$0
Estimated Employer Contribution for FYE 06/30/2019 to receive 100% of the State Premium Tax Allocation and to grant Supplemental Benefits; i.e. COLA increases	\$626,718

Executive Summary (Continued)

A sponsor using the Alternative funding policy must satisfy the solvency test, as referenced in West Virginia Code section §8-22-20 (c)(1) in order to receive 100% of the State premium tax allocation, or grant Supplemental Benefits to plan members. We understand that the minimum requirement to satisfy the statutory solvency test includes a demonstration that the assets are projected to be greater than zero over a 15-year period. The statutes also require that an actuary perform the projection and certify the solvency test. However, the statutes provide little guidance on the parameters used to perform the solvency projections.

Under the current minimum statutory requirements, a sponsor of a poorly funded plan could provide Supplement Benefits to members, effectively deplete assets over a 15-year period, and have no available assets reserved to pay the benefits of current or future retirees after the 15-year period. For this reason, we recommend performing projections that include a margin for conservatism and satisfy the minimum statutory requirement for solvency. For this purpose we recommend performing projections that assume contributions for members hired after the actuarial valuation date will not be used to finance the unfunded liabilities of current members as of the actuarial valuation date. That is, assets and liabilities associated with new plan members are excluded from the solvency projections used to certify the solvency test for purposes of providing Supplemental Benefits. In this report projections that exclude new members are called "Closed Group Projections."

The statutes also require that the Plan satisfy the solvency test in order to receive the State premium tax allocation. For this purpose we recommend using less conservatism in the projections in order to ensure that the Plan receives the greatest allowable State premium tax allocation. A projection that includes assets and liabilities for members hired after the actuarial valuation would be less conservative. In this report projections that include new members are called "Open Group Projections."

The sponsor is projected to satisfy the 15-year solvency test without making additional annual contributions in excess of the minimum alternative contribution. **However, given that the funded as of June 30, 2017, is only 22% at June 30, 2017, and is projected to decrease to 19% at June 30, 2034, and grow slowly to 46% at June 30, 2057, we strongly recommend that the sponsor make additional contributions in excess of the statutory minimum.**

Executive Summary (Continued)

Commentary on Premium Tax Allocation

Under §8-22-19 of the West Virginia Code, the plan sponsor is required to deposit the statutory contribution on a monthly basis at a rate of one-twelfth of the annual requirement, in order to receive the premium tax allocation from the Municipal Pensions Security Fund. Revenues which are specifically collected for the Fund, including employee payroll contributions, must be deposited within five days of receipt.

Based upon discussions with the MPOB, we understand the annual premium tax allocation is determined by September 1st each year. Municipalities can begin invoicing the MPOB for their share of the premium tax allocation after receiving their state provided actuarial study and after the municipality has made employer contributions to the local Plan. Each municipal treasurer shall use the invoice template provided by the MPOB to begin drawing down the state allocation for the municipal pension plan. This July 1, 2017, Actuarial Report from GRS is to be used by municipal pension plans to draw down the September 1, 2018 State Premium Tax Allocation which is allocated in Fiscal Year 2019. The actuarial valuation and projection results assume the sponsor will make the statutory contributions on a monthly basis in accordance with statutes, including any additional amounts needed to satisfy the 15-year solvency test on an open group projection basis, and will be eligible to receive the premium tax allocation.

Commentary on Solvency Projections and Supplemental Benefits

Under § 8-22-26a of the West Virginia Code, all retirees, surviving spouses, and disabled pensioners are eligible for Supplemental Benefits that include automatic cost-of-living benefits commencing on the first day of July following two years of retirement. The benefit equals the percentage increase in the Consumer Price Index, limited to 4.0 percent (2.0 percent for certain disabled pensioners), multiplied by the sum of the allowable amount (first \$15,000 of initial benefits paid) and the accumulated supplemental pensions paid in prior years.

The Court of Appeals decision requires that Supplemental Benefits be provided on “the allowable amount of the first \$15,000 of the total annual pension paid in addition to the accumulated supplemental pension from the previous years.” The decision implies that compound cost-of-living increases should be applied to both the allowable amount of \$15,000 and the accumulated supplemental pension amounts for prior years. Additional Supplemental Benefits are payable only if the Plan satisfies the minimum standard for actuarial soundness as defined in West Virginia Code § 8-22-20. This minimum standard requires that the fund remain “solvent” over the next 15-year projection period. Based on discussions with the West Virginia Municipal Pensions Oversight Board, and our understanding of the administrative practices of other local police and fire pension funds in West Virginia, the “solvency” requirement generally means that the fund’s market value of assets is projected to be greater than zero for all plan years prior to the end of the 15-year projection period. The projection is based on the most recent actuarial valuation and assumes the plan sponsor will make contributions according to the funding policy elected by the sponsor as defined by West Virginia Code, including any additional amounts needed to satisfy the 15-year solvency test on a closed group projection basis. Although the 15-year solvency test may satisfy the minimum standard for actuarial soundness under the statutes, it is not necessarily consistent with generally accepted actuarial principles.

Executive Summary (Continued)

The Supplemental benefits for plan year beginning July 1, 2019 will be based on the Consumer Price Index for calendar year 2018, and the projected results of the July 1, 2017 actuarial valuation.

Additional Remarks on the Actuarial Valuation Results

Following are additional remarks on the actuarial valuation results as of July 1, 2017:

- The actuarial assumptions and methods were recommended by the actuary, in the report *2016 Experience Review for the Years July 1, 2009, to July 1, 2014*, and approved by the Municipal Pensions Oversight Board and became effective beginning with the actuarial valuation as of July 1, 2015. The key actuarial assumptions are fully disclosed in Section VI of the report.
- The interest rate used to discount liabilities remained the same for the July 1, 2016 and July 1, 2017 actuarial valuations.
 - The interest rate assumption was developed by reviewing the Plan's current funded ratio, the 15-year projected funded ratio, the ratio of assets to benefits, the percentage of assets allocated to equities and the funding policy selected. The details of the methodology used to select the discount rate are presented in Section VI of the report. As of July 1, 2017, the Plan's funded ratio of 26% (using a testing interest rate of 5.50% for all plans using the Alternative funding policy), ratio of assets to benefits of 6.16, equity allocation of 38%, and 15-year projected funded ratio of 27%, resulted in a discount rate assumption of 4.50%.
- The Fund experienced an approximate annualized return of 7.17% on the market value of assets during the plan year ended June 30, 2017, which compares to the expected annualized return of 4.50%. The difference in actual versus expected return produced an asset (gain)/loss of (\$210,084).
- An actuarial valuation is based on the expectation of certain events such as salary increases, retirement, disability, mortality, termination, and cost of living increases. Demographic or liability experience (gains)/losses are generated when the actual occurrence of such events differs from the expectation. During the plan year ended June 30, 2017, the fund experienced a net liability (gain)/loss of (\$345,278) due to these events.

Alternative Funding

Following are additional remarks on the actuarial valuation projections under the current funding policy.

Based on the open group projections shown in Table 2, page II-2 and assuming that the sponsor makes the statutory required contributions, if all actuarial assumptions are realized in the future, including an investment return of 4.50%:

- The funded ratio is projected to decrease slowly from 22% at June 30, 2017, to 20% at June 30, 2024, to 19% at June 30, 2034, and then increase slowly to 46% at June 30, 2057.
- Employer contributions are expected to increase from \$585,718 (or 22% of pay) for the fiscal year end June 30, 2018, to \$8,197,007 (or 75% of pay) for fiscal year end June 30, 2057.

Please note that a funded ratio of only 22% at June 30, 2017, which declines to 19% at June 30, 2034, means that the plan is severely underfunded.

Executive Summary (Continued)

The Alternative funding policy is not consistent with generally accepted actuarial principles because it does not recognize emerging gains or losses.

A funding policy consistent with generally accepted actuarial principles is typically based on the sponsor contributing the normal cost net of employee contributions plus an amortization of the unfunded actuarial accrued liability. The annual amortization amount is generally 6% to 7% of the unfunded actuarial accrued liability. Under state statute, the annual premium tax allocation can only be used to finance the amortization of the unfunded actuarial accrued liability. For fiscal year end 2019, the Alternative funding policy contribution of \$626,718 is sufficient to finance only 53% of the net employer normal cost of \$1,172,250. The state premium tax allocation of \$435,474 is sufficient to finance only 1.5% of the unfunded actuarial accrued liability of \$29,466,372.

This actuarial valuation assumes that the City will be able to make future contributions on a timely basis. The ability of the plan to become funded is heavily dependent on the City contributing the minimum employer contribution calculated under the Alternative funding policy for each and every future year. We did not perform an analysis of the ability of the City to make future contributions. Such an analysis is not within the scope of our assignment or within our analytical skill set. Failure to receive City contributions on a timely basis could jeopardize the sustainability of the Fund.

Please understand that minimum employer contribution calculated under the Alternative funding policy as defined in West Virginia Code 8-22-20 (c)(1) is just that – the minimum that needs to be contributed each and every year. Because this is a severely underfunded plan, we recommend that the plan sponsor consider making additional contributions (in excess of the minimum requirement) to ensure that there are sufficient assets available in the fund in all years to pay the promised benefits.

If the minimum employer contributions (calculated under the Alternative funding policy) are not made or investment return is less than the assumption of 4.50%, the funded ratio will be lower and the cash flow strain could be higher. If another significant market downturn occurs while the plan's funded ratio is declining, the plan may need to liquidate assets in order to pay benefits which could have a further adverse effect on the funded status of the System.

Under the Alternative funding policy, City contributions increase by seven percent and do not change as a result of emerging actuarial experience. However, emerging experience gains and losses could impact the Plan's funded ratio as follows:

- If the actual return on assets is *less* than the assumed return of 4.50%, then the funded ratio will *decrease*. Conversely, if the actual return on assets is *greater* than the assumed return of 4.50% then the funded ratio will *increase*.
- If salaries *increase* by more than assumed, the funded ratio could *decrease*. If salaries *decrease* by more than assumed, the funded ratio could *increase*.
- If active members retire *sooner* than expected, the funded ratio will generally *decrease*. If active members retire *later* than expected, the funded ratio will generally *increase*.
- If active members become disabled during the year, the funded ratio could *decrease*.
- If retired members die *later* than expected, the funded ratio will *decrease*. If retired members die *sooner* than expected, the funded ratio will *increase*.

Executive Summary (Continued)

- If the general inflation is *greater* than assumed, supplemental benefits will be greater than assumed and the funded ratio will *decrease*. Conversely, if general inflation is *lower* than assumed, the funded ratio will *increase*.

At least once every five years, GRS performs an experience review analysis and updates the actuarial valuation assumptions. For example, if salary increases were consistently lower than assumed during the experience period, then the salary increase rate would likely be lowered. Or if more members retired than assumed, then the retirement rates would likely be increased. Any change in actuarial assumption will also impact the City's funded ratio. The objective of a change in assumptions is to reduce the level of experience gains and losses in future actuarial valuations.

Schedule A: Summary of Key Valuation Results

Valuation Date	July 1, 2016	July 1, 2017
Valuation Interest Rate	4.50%	4.50%
Cost-of-Living Adjustment	2.75%	2.75%
Wage Inflation	3.75%	3.75%
Expected Payroll	\$2,543,082	\$2,643,190
Average Pay	\$56,513	\$60,073
Expected Benefit Payments	\$1,353,041	\$1,354,244
1. Actuarial Accrued Liability	<u>No.</u>	<u>No.</u>
(a) Actives	45	44
(b) Retirees ^a	23	23
(c) Survivors	10	8
(d) Disabled Members	8	8
(e) Deferred Vested Members	0	0
(f) Total	86	83
2. Present Value of Future Normal Costs	\$16,352,636	\$16,287,096
3. Present Value of Benefits (1(f) + 2)	\$52,913,473	\$54,091,014
4. Market Value of Assets	\$7,869,158	\$8,337,546
5. Unfunded Actuarial Accrued Liability (1(f) - 4)	\$28,691,679	\$29,466,372
6. Funded Ratio (4 / 1(f))	21.52%	22.05%
7. Net Employer Normal Cost		
(a) Normal Cost	\$1,317,014	\$1,384,492
(b) Administrative Expenses	\$9,740	\$9,994
(c) Gross Normal Cost (a + b)	\$1,326,754	\$1,394,486
(d) Employee Contribution Rate ^b	8.40%	8.41%
(e) Expected Employee Contributions	\$213,703	\$222,236
(f) Net Employer Normal Cost (c - e)	\$1,113,051	\$1,172,250
(% of Compensation)	43.77%	44.35%
	FYE 2018	FYE 2019
8. Estimated Minimum Employer Contribution ^c		
(a) Prior Year Alternative Contribution	\$547,400	\$585,718
(b) Increase in Alternative Contribution	7.00%	7.00%
(c) Current Year Alternative Contribution	\$585,718	\$626,718
(d) Additional Contribution ^d	\$0	\$0
(e) Alternative Contribution (c + d)	\$585,718	\$626,718

^a Blended rate reflecting 8.0% for members hired before January 1, 2010, and 9.5% for members hired after January 1, 2010.

^b Estimated Minimum Employer Contribution is based on Alternative funding policy and is assumed to be made in plan year ending June 30, 2019.

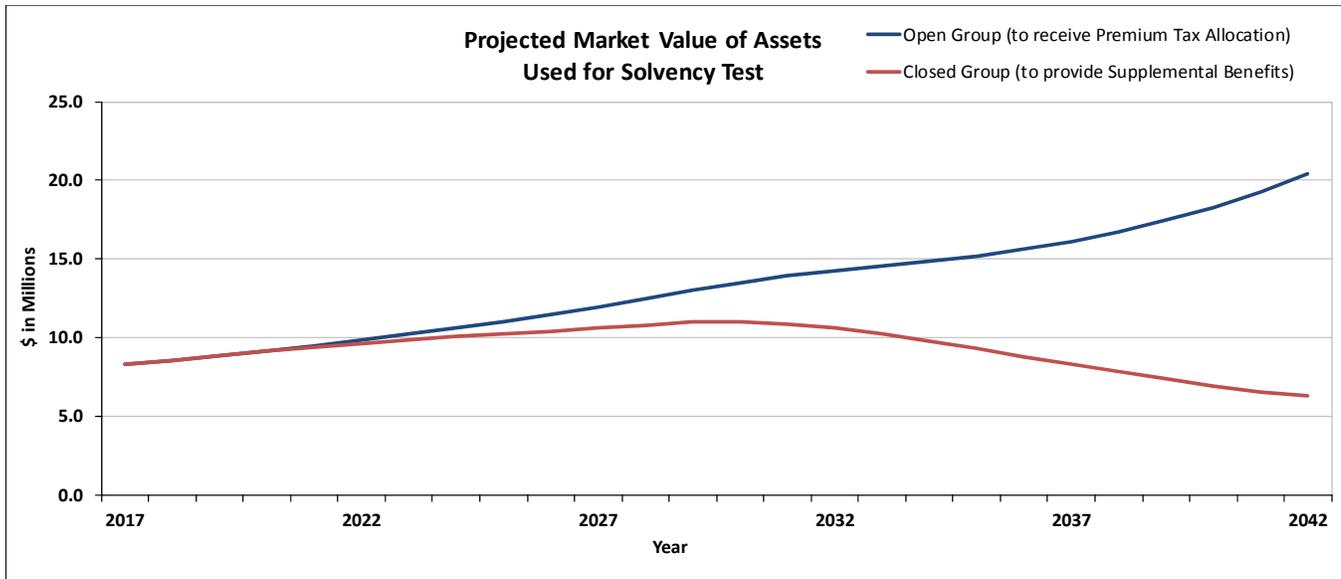
Schedule B: (Gain)/Loss Analysis

Experience (Gain)/Loss for Plan Year Ended June 30, 2017

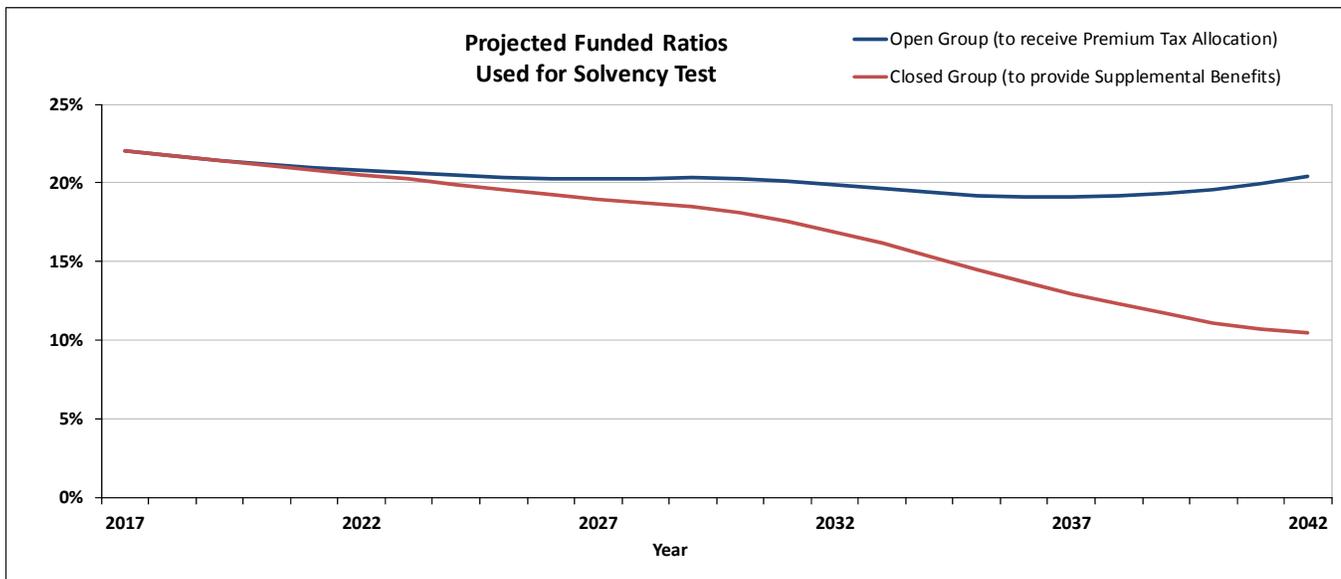
1. (a) Actuarial Accrued Liability as of 7/1/2016	\$36,560,837
(b) Normal Cost due 7/1/2016	\$1,317,014
(c) Interest on (a) and (b) to 6/30/2017	\$1,674,870
(d) Benefit Payments with interest to 6/30/2017	\$1,403,525
(e) Effect of Assumption Changes	\$0
(f) Expected Liability at 7/1/2017 [(a) + (b) + (c) - (d) + (e)]	\$38,149,196
(g) Actual Liability at 7/1/2017	\$37,803,918
(h) Liability (Gain)/Loss [(g) - (f)]	(\$345,278)
2. (a) Market Value of Assets as of 7/1/2016	\$7,869,158
(b) Interest on (a) to 6/30/2017	\$354,180
(c) Contributions with interest to 6/30/2017	\$1,307,649
(d) Benefit Payments with interest to 6/30/2017	\$1,403,525
(e) Expected Assets at 6/30/2017 [(a) + (b) + (c) - (d)]	\$8,127,462
(f) Actual Assets at 7/1/2017	\$8,337,546
(g) Asset (Gain)/Loss [(e) - (f)]	(\$210,084)
3. Total (Gain)/Loss [1(h) + 2(g)]	(\$555,362)

Graphs 1A and 1B: Solvency Projections

Graph 1A



Graph 1B



SECTION II

ACTUARIAL PROJECTIONS

ALTERNATIVE FUNDING POLICY

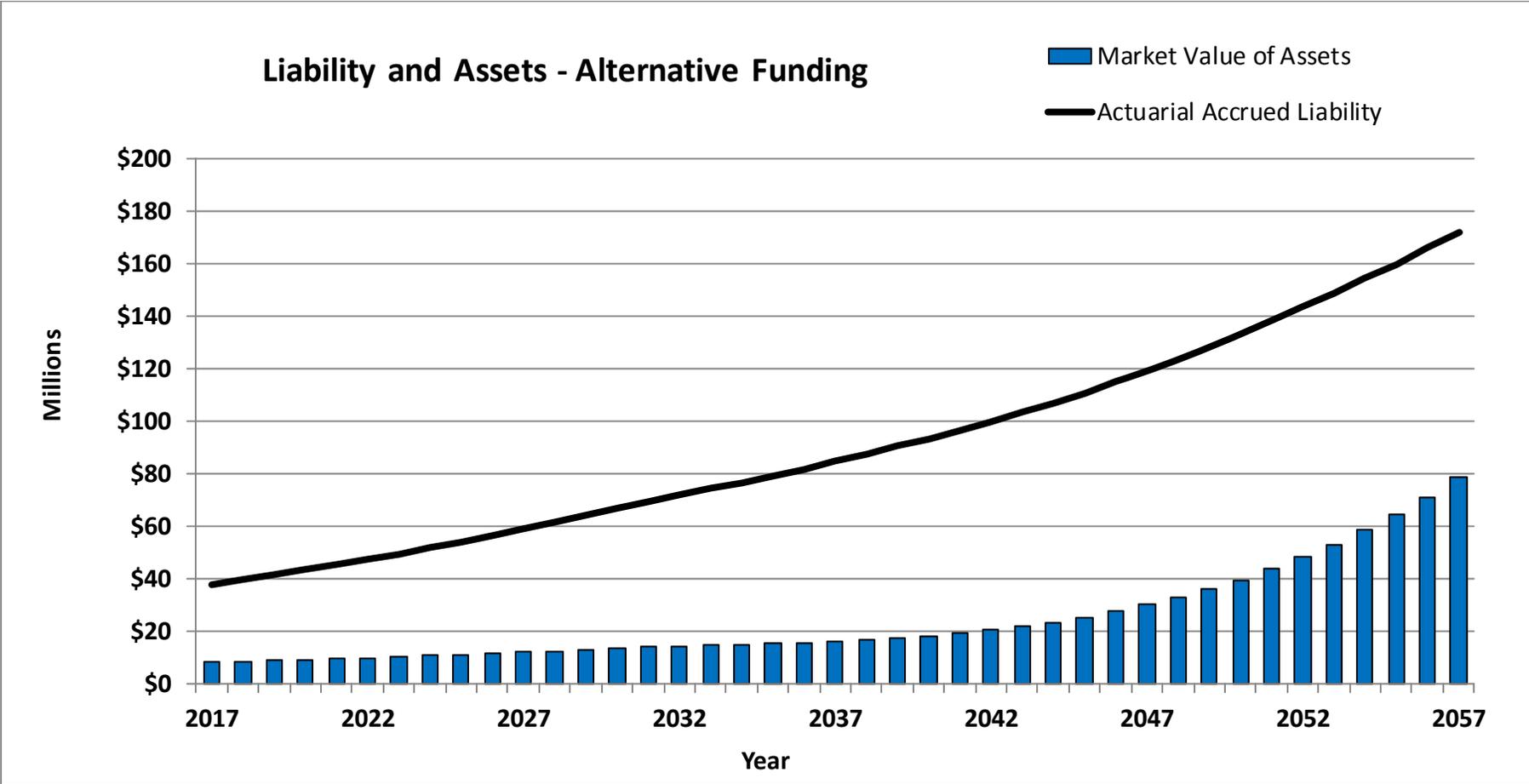
Alternative Funding on a Closed Group Basis, Table 1

Valuation			Total Assets													
Year End	Number		Total Payroll	Assets (bov)	Benefit Payments	Employer Expenses	Member Contributions	Member Contributions	Premium Tax Allocation	Investment Income	Assets (eov)	Actuarial Accrued Liability	Unfunded Liability	Funded Ratio		
	30-Jun	Active													Status	
2017	44	39	\$2,543,082	\$7,870,666	\$1,372,674	\$5,000	\$622,400	\$219,978	\$436,496	\$565,680	\$8,337,546	\$37,803,918	\$29,466,372	22%		
2018	42	39	2,643,190	8,337,546	1,354,244	9,994	585,718	222,236	427,263	372,319	8,580,844	39,536,038	30,955,194	22%		
2019	41	39	2,695,639	8,580,844	1,379,553	10,052	626,718	226,651	435,474	383,896	8,863,978	41,348,786	32,484,808	21%		
2020	38	40	2,689,035	8,863,978	1,441,830	10,129	670,588	226,302	422,179	395,921	9,127,009	43,175,151	34,048,142	21%		
2021	36	41	2,671,616	9,127,009	1,515,245	10,223	717,529	225,085	414,320	406,965	9,365,441	44,997,736	35,632,295	21%		
2022	35	41	2,682,961	9,365,441	1,566,048	10,322	767,756	226,182	410,021	417,609	9,610,638	46,854,784	37,244,146	21%		
2023	32	41	2,666,748	9,610,638	1,628,272	10,429	821,499	225,099	405,719	428,331	9,852,585	48,719,572	38,866,987	20%		
2024	30	42	2,615,091	9,852,585	1,716,679	10,407	879,004	221,222	396,789	438,247	10,060,760	50,545,942	40,485,182	20%		
2025	28	43	2,570,082	10,060,760	1,804,743	10,541	940,534	217,921	391,333	446,827	10,242,091	52,336,050	42,093,959	20%		
2026	27	44	2,545,799	10,242,091	1,874,243	10,682	1,006,371	216,321	387,564	454,782	10,422,203	54,118,225	43,696,022	19%		
2027	25	45	2,520,696	10,422,203	1,940,500	10,836	1,076,817	214,688	384,925	462,882	10,610,179	55,894,378	45,284,199	19%		
2028	24	45	2,496,821	10,610,179	2,010,771	11,006	1,152,194	213,171	382,480	471,363	10,807,610	57,660,588	46,852,978	19%		
2029	22	47	2,434,734	10,807,610	2,112,601	11,180	1,232,848	208,628	381,093	479,639	10,986,037	59,367,699	48,381,662	19%		
2030	18	50	2,226,653	10,986,037	2,318,851	11,360	1,319,147	192,438	378,046	484,568	11,030,025	60,829,699	49,799,674	18%		
2031	15	52	1,952,617	11,030,025	2,560,992	11,543	1,411,487	170,733	367,595	482,494	10,889,799	61,963,356	51,073,557	18%		
2032	13	53	1,728,374	10,889,799	2,759,366	11,723	1,510,291	152,550	361,229	473,418	10,616,198	62,827,164	52,210,966	17%		
2033	11	54	1,532,256	10,616,198	2,930,107	11,900	1,616,011	136,425	357,488	459,213	10,243,328	63,452,179	53,208,851	16%		
2034	9	55	1,340,561	10,243,328	3,088,571	12,077	1,729,132	120,488	354,934	441,010	9,788,243	63,841,220	54,052,977	15%		
2035	7	56	1,170,964	9,788,243	3,225,291	12,253	1,850,171	106,408	353,330	419,829	9,280,437	64,018,221	54,737,784	14%		
2036	6	56	1,045,111	9,280,437	3,325,737	12,427	1,979,683	95,944	354,803	397,420	8,770,123	64,034,332	55,264,209	14%		
2037	5	56	921,257	8,770,123	3,416,300	12,597	2,118,261	85,195	356,860	375,327	8,276,869	63,891,884	55,615,015	13%		
2038	4	56	795,750	8,276,869	3,505,740	12,762	2,266,539	73,999	359,386	354,244	7,812,535	63,584,053	55,771,518	12%		
2039	3	57	642,194	7,812,535	3,617,407	12,921	2,425,197	59,929	362,817	334,154	7,364,304	63,068,695	55,704,391	12%		
2040	2	57	461,040	7,364,304	3,745,389	13,073	2,594,961	43,150	365,602	314,599	6,924,154	62,307,697	55,383,543	11%		
2041	1	56	329,508	6,924,154	3,826,657	13,219	2,776,608	30,956	369,085	296,829	6,557,755	61,363,119	54,805,364	11%		
2042	1	56	248,019	6,557,755	3,864,701	13,359	2,970,971	23,361	374,313	283,763	6,332,103	60,295,696	53,963,593	11%		
2043	1	55	175,923	6,332,103	3,894,090	13,492	3,178,939	16,597	379,754	277,551	6,277,361	59,114,085	52,836,724	11%		
2044	0	54	120,019	6,277,361	3,908,269	13,619	3,401,465	11,345	385,630	279,734	6,433,647	57,837,558	51,403,911	11%		
2045	0	54	84,302	6,433,647	3,902,761	13,739	3,639,568	7,992	391,687	292,245	6,848,639	56,491,762	49,643,123	12%		
2046	0	53	57,663	6,848,639	3,887,186	13,853	3,894,338	5,478	397,855	317,015	7,562,286	55,088,269	47,525,983	14%		
2047	0	52	38,444	7,562,286	3,862,796	13,959	4,166,942	3,652	403,986	355,831	8,615,943	53,637,097	45,021,154	16%		
2048	0	51	25,153	8,615,943	3,830,730	14,056	4,458,628	2,390	410,090	410,555	10,052,820	52,146,910	42,094,090	19%		
2049	0	50	14,602	10,052,820	3,793,283	14,145	4,770,732	1,387	415,990	483,101	11,916,602	50,622,829	38,706,227	24%		
2050	0	48	6,413	11,916,602	3,750,782	14,224	5,104,683	609	421,641	575,454	14,253,983	49,069,666	34,815,683	29%		
2051	0	47	2,822	14,253,983	3,701,805	14,293	5,462,011	268	427,058	689,789	17,117,011	47,494,935	30,377,924	36%		
2052	0	46	1,893	17,117,011	3,647,916	14,350	5,844,352	180	432,218	828,444	20,559,938	45,904,001	25,344,063	45%		
2053	0	45	766	20,559,938	3,591,271	14,396	6,253,457	73	437,024	993,843	24,638,668	44,298,852	19,660,184	56%		
2054	0	44	0	24,638,668	3,531,573	14,430	6,691,199	0	441,415	1,188,551	29,413,830	42,682,142	13,268,312	69%		
2055	0	43	0	29,413,830	3,468,687	14,451	7,159,583	0	445,474	1,415,345	34,951,095	41,056,965	6,105,870	85%		
2056	0	42	0	34,951,095	3,403,291	14,458	5,807,089	0	449,110	1,635,962	39,425,506	39,425,506	0	100%		
2057	0	40	0	39,425,506	3,335,475	14,451	14,451	0	0	1,699,925	37,789,957	37,789,957	0	100%		

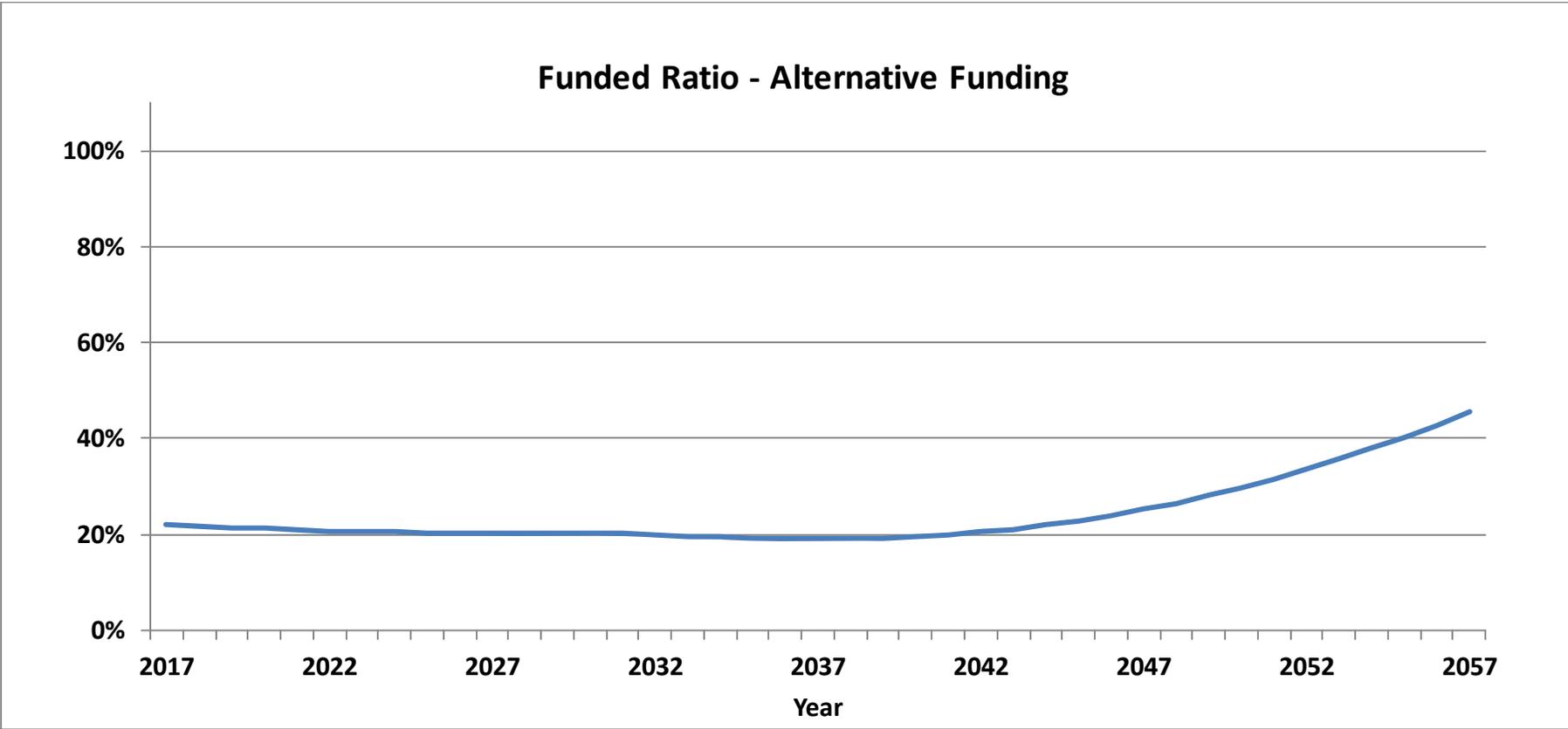
Alternative Funding on an Open Group Basis, Table 2

Valuation Plan Year End	Number		Total Assets										Actuarial Accrued Liability	Unfunded Liability	Funded Ratio			
	Active	Pay Status	Total Payroll	Assets			Benefit		Employer		Member					Premium Tax	Investment	Assets
				(boy)	Payments	Expenses	Contributions	Contributions	Contributions	Contributions	Allocation	Income				(eoy)		
2017	44	39	\$2,543,082	\$7,870,666	\$1,372,674	\$5,000	\$622,400	\$219,978	\$436,496	\$565,680	\$8,337,546	\$37,803,918	\$29,466,372	22%				
2018	44	39	2,643,190	8,337,546	1,354,244	9,994	585,718	222,236	427,263	372,319	8,580,844	39,536,038	30,955,194	22%				
2019	44	39	2,762,235	8,580,844	1,379,553	10,244	626,718	233,517	435,474	384,044	8,870,800	41,383,233	32,512,433	21%				
2020	44	40	2,846,930	8,870,800	1,442,067	10,555	670,588	242,140	447,875	397,138	9,175,919	43,292,495	34,116,576	21%				
2021	44	41	2,966,261	9,175,919	1,516,210	10,991	717,529	254,363	459,972	410,795	9,491,377	45,271,723	35,780,346	21%				
2022	44	41	3,094,958	9,491,377	1,568,382	11,350	767,756	266,590	470,401	425,443	9,841,835	47,351,904	37,510,069	21%				
2023	44	41	3,205,093	9,841,835	1,632,562	11,732	821,499	277,677	481,459	441,466	10,219,642	49,513,614	39,293,972	21%				
2024	44	42	3,312,159	10,219,642	1,723,378	12,061	879,004	289,299	491,702	458,206	10,602,413	51,730,375	41,127,962	20%				
2025	44	43	3,440,346	10,602,413	1,814,433	12,560	940,534	302,802	505,784	475,376	10,999,915	54,015,504	43,015,589	20%				
2026	44	44	3,584,640	10,999,915	1,887,625	13,033	1,006,371	317,441	519,418	493,718	11,436,205	56,399,058	44,962,853	20%				
2027	44	45	3,731,167	11,436,205	1,958,262	13,512	1,076,817	332,408	533,575	513,984	11,921,215	58,888,859	46,967,644	20%				
2028	44	46	3,892,519	11,921,215	2,033,476	14,028	1,152,194	348,907	549,025	536,513	12,460,350	61,492,685	49,032,335	20%				
2029	44	47	4,018,975	12,460,350	2,140,772	14,538	1,232,848	362,662	564,675	560,825	13,026,050	64,168,225	51,142,175	20%				
2030	44	50	4,042,950	13,026,050	2,353,059	15,151	1,319,147	369,265	582,594	584,009	13,512,855	66,757,349	53,244,494	20%				
2031	44	52	4,137,491	13,512,855	2,601,990	16,085	1,411,487	384,184	608,546	603,320	13,902,317	69,253,891	55,351,574	20%				
2032	44	54	4,258,586	13,902,317	2,808,464	16,889	1,510,291	399,327	631,867	619,287	14,237,736	71,713,565	57,475,829	20%				
2033	44	55	4,400,878	14,237,736	2,988,843	17,646	1,616,011	415,888	654,958	633,586	14,551,690	74,173,221	59,621,531	20%				
2034	44	56	4,547,964	14,551,690	3,158,213	18,379	1,729,132	432,803	677,685	647,328	14,862,046	76,645,494	61,783,448	19%				
2035	44	57	4,731,976	14,862,046	3,307,091	19,122	1,850,171	453,187	702,026	661,653	15,202,870	79,172,099	63,969,229	19%				
2036	44	57	4,932,653	15,202,870	3,420,975	19,769	1,979,683	474,376	724,263	678,290	15,618,738	81,800,826	66,182,088	19%				
2037	44	58	5,133,971	15,618,738	3,526,354	20,394	2,118,261	494,786	746,134	698,669	16,129,841	84,544,177	68,414,336	19%				
2038	44	58	5,346,394	16,129,841	3,631,684	21,038	2,266,539	515,466	769,570	723,592	16,752,285	87,411,004	70,658,719	19%				
2039	44	59	5,529,043	16,752,285	3,762,257	21,681	2,425,197	532,648	793,137	753,119	17,472,448	90,362,293	72,889,845	19%				
2040	44	59	5,723,303	17,472,448	3,917,377	22,430	2,594,961	550,929	819,933	786,839	18,285,303	93,382,017	75,096,714	20%				
2041	44	59	5,962,546	18,285,303	4,036,267	23,178	2,776,608	573,009	846,930	825,889	19,248,295	96,528,642	77,280,347	20%				
2042	44	60	6,216,016	19,248,295	4,126,271	23,860	2,970,971	595,567	872,538	872,603	20,409,843	99,842,641	79,432,798	20%				
2043	44	60	6,469,069	20,409,843	4,222,401	24,561	3,178,939	617,847	898,514	928,419	21,786,600	103,322,416	81,535,816	21%				
2044	44	60	6,738,009	21,786,600	4,320,622	25,306	3,401,465	641,987	926,071	994,274	23,404,469	106,978,007	83,573,538	22%				
2045	44	60	7,015,597	23,404,469	4,419,975	26,058	3,639,568	667,153	953,637	1,071,321	25,290,116	110,820,791	85,530,675	23%				
2046	44	61	7,301,082	25,290,116	4,529,228	26,836	3,894,338	693,037	982,167	1,160,607	27,464,202	114,855,384	87,391,182	24%				
2047	44	61	7,594,527	27,464,202	4,647,217	27,641	4,166,942	719,922	1,011,653	1,263,119	29,950,979	119,085,552	89,134,573	25%				
2048	44	61	7,898,644	29,950,979	4,775,106	28,476	4,458,628	747,773	1,042,329	1,379,952	32,776,079	123,517,315	90,741,236	27%				
2049	44	61	8,207,705	32,776,079	4,913,651	29,336	4,770,732	774,854	1,073,868	1,512,229	35,964,774	128,152,751	92,187,977	28%				
2050	44	62	8,515,251	35,964,774	5,062,138	30,235	5,104,683	801,538	1,106,873	1,661,156	39,546,651	132,984,743	93,438,092	30%				
2051	44	62	8,831,293	39,546,651	5,223,782	31,197	5,462,011	829,821	1,141,964	1,828,083	43,553,552	138,007,215	94,453,663	32%				
2052	44	63	9,155,423	43,553,552	5,404,763	32,204	5,844,352	858,563	1,178,692	2,014,309	48,012,501	143,217,068	95,204,567	34%				
2053	44	63	9,482,186	48,012,501	5,602,976	33,254	6,253,457	887,377	1,217,074	2,221,127	52,955,305	148,603,716	95,648,411	36%				
2054	44	64	9,815,704	52,955,305	5,820,667	34,358	6,691,199	917,704	1,257,373	2,449,996	58,416,552	154,157,587	95,741,035	38%				
2055	44	65	10,161,804	58,416,552	6,058,748	35,505	7,159,583	949,763	1,299,509	2,702,502	64,433,656	159,876,615	95,442,959	40%				
2056	44	65	10,518,686	64,433,656	6,313,647	36,681	7,660,754	983,132	1,342,954	2,980,436	71,050,604	165,761,000	94,710,396	43%				
2057	44	66	10,890,617	71,050,604	6,582,171	37,886	8,197,007	1,018,689	1,387,780	3,285,918	78,319,941	171,816,358	93,496,417	46%				

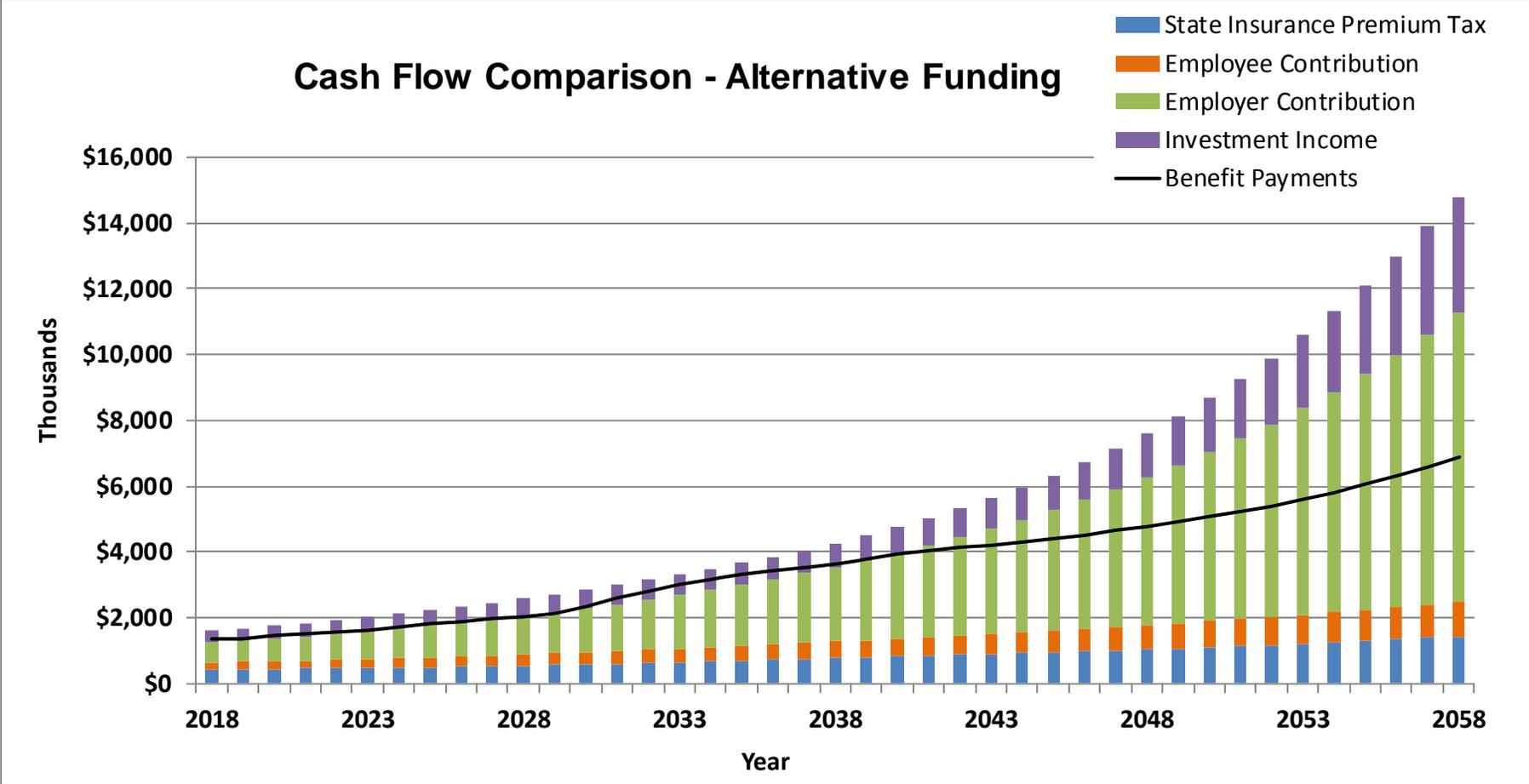
Open Group Actuarial Projections – Alternative Funding, Graph 2



Open Group Actuarial Projections – Alternative Funding, Graph 3



Open Group Actuarial Projections – Alternative Funding, Graph 4



SECTION III

FUNDING POLICY CHOICES

Actuarial Projections –Alternative/Optional/Conservation Funding

Funding Policy Choices

West Virginia Code §8-22-20 allows a municipality's governing body (City Council) the choice of changing from the Alternative funding policy to either the Optional funding policy or the Conservation funding policy. The Optional funding policy is defined in West Virginia Code §8-22-20(e)(1), and is effective for plan years beginning after January 1, 2010. The Conservation funding policy is defined in West Virginia Code §8-22-20(f)(1), and is effective for plan years beginning after April 1, 2011.

If the City Council elects either the Optional funding policy or the Conservation funding policy, the existing local Plan is closed, and new employees are covered in the multiple employer statewide plan - *Municipal Police Officers and Firefighters Retirement System*. Contributions to the statewide plan include:

- Employer contributions from 8.5% to 10.5% of pay. Currently, Employers contribute 8.5% of pay.
- Employee contributions of 8.5% of pay.

If the City Council elects the Optional funding policy, contributions to the closed local Plan include:

- Employer contributions equal to the normal cost, net of employee contributions, plus a 40-year closed period amortization from January 1, 2010, on a level dollar basis, of the unfunded actuarial accrued liability net of premium tax allocation applicable to the plan year.
- Employee contributions of 7% of pay if hired before January 1, 2010, which may be increased by up to 2.5% of pay if elected by the Board of trustees of the Plan. Employees hired after January 1, 2010, contribute 9.50% of pay.
- The premium tax allocation assigned to the Fund for the plan year.

If the City Council elects the Conservation funding policy, contributions to the closed local Plan are made to two asset accounts as follows:

- The first asset account (Benefit Payment Account) is used to finance benefits and expenses for the fiscal year on a pay-as-you-go basis. Sources to pay current year benefits and expenses include active member employee contributions in excess of 1.5% of pay, a portion of the premium tax allocation not assigned to the accumulation account as defined below, and employer contributions.
- The second account (Accumulation Account) cannot be used to pay benefits and expenses until assets exceed actuarial accrued liabilities. Contributions to the accumulation account include employee contributions of 1.5% of pay and a percentage of the premium tax allocation. The percentage of premium tax allocation is based on the amounts needed to produce 100% funding of liabilities in 35 years, from adoption, considering assets from both the benefit payment account and the accumulation account. This account also includes the Fund's assets prior to the adoption of Conservation funding policy.

Actuarial Projections –Alternative/Optional/Conservation Funding (Continued)

For purposes of evaluating the implication of selecting either the Optional funding policy or the Conservation funding policy, we have generated actuarial projections under the following two illustrative scenarios.

- Scenario I – The sponsor elects either the Optional funding policy or Conservation funding policy during fiscal year end June 30, 2019, and makes the newly elected contribution in fiscal year end June 30, 2019.
- Scenario II – The sponsor elects either the Optional funding policy or the Conservation funding policy at some future date when/if contributions are projected to be less than under the current Alternative funding policy.

It is important to note that the plan sponsor can make only one election to either the Optional funding policy or the Conservation funding policy, and that the election is irrevocable. The projections assume employer contributions of 10.5% of pay for future members covered under the statewide plan.

Given that the funded ratio as of June 30, 2017 is only 22.1% and that the ratio of assets to expected benefits for the year is only 6.16, we strongly recommend that the sponsor make additional contributions in excess of the statutory minimum under both the Alternative and Conservation funding policies.

Scenario I – Sponsor Immediately Elects either the Optional or Conservation Funding Policy

The following table shows the employer contribution for the fiscal year end June 30, 2019, if the sponsor elects either the Optional or Conservation funding policy in fiscal year end June 30, 2019:

Total Employer Contributions for FYE June 30, 2019				
	Local Plan		Statewide Plan	
Funding Method	Amount	Percent of Pay	Amount	Percent of Pay
Alternative	\$626,718	22.7%	NA	NA
Optional	\$2,441,671	90.6%	\$6,993	10.5%
Conservation	\$815,036	30.2%	\$6,993	10.5%

Graphs I(1), I(2), and I(3) on the following pages show the projected contribution and funded ratio pattern of the three separate funding policies. If the sponsor continues to make contributions under the Alternative policy, employer contributions are projected to increase from \$585,718 in fiscal year end 2018 to \$8,197,007 in fiscal year end 2057. In fiscal year end 2057, the plan is projected to be 46% funded.

If the Optional funding policy is selected in fiscal year end 2019, employer contributions to the local plan for fiscal year end 2019 are projected to increase from \$626,718 to \$2,441,671. However, over the 40-year projection period, total employer contributions to both the local plan and the statewide plan are projected to decrease from \$2,448,664 in fiscal year end 2019 to \$1,491,674 in fiscal year end 2049, and the Plan is projected to be fully funded in 2050.

Actuarial Projections –Alternative/Optional/Conservation Funding (Continued)

If the Conservation funding policy is selected in fiscal year end 2019, employer contributions to the local plan for fiscal year end 2019 are projected to increase from \$626,718 to \$815,036. During the 35-year projection period, total employer contributions to both the local plan and the statewide plan are projected to increase from \$822,029 in fiscal year end 2019 to \$3,624,464 in fiscal year end 2051 and the Plan is projected to be fully funded in 2052.

The Optional funding policy is consistent with actuarial standards of practice and produces a relatively stable dollar contribution pattern and reasonable growth in the funded ratio.

The Conservation funding policy produces a less stable contribution pattern and significantly slower growth in the funded ratio when compared to the Optional funding policy. The projections of employer contributions under the Conservation funding policy are dependent on the expected number of retirements, disabilities, and resulting benefit payments. Actual experience could produce a significantly higher number of retirements, disabilities, and benefit payments, which would increase the employer's required contribution under the Conservation funding policy. Unlike the Optional funding policy, the Conservation funding policy does not have a built-in feature to smooth out emerging gains and losses.

The Alternative funding policy produces a lower funded ratio when compared to either the Optional funding policy or the Conservation funding policy, and the 7% annual increases in employer contributions may eventually be cost prohibitive.

The details of the Optional and Conservation funding policy projections can be found in the Appendix. The details of the Alternative funding policy projection were presented in Section II.

Scenario II – Sponsor Elects Optional or Conservation Policy if/when Contributions are Lower

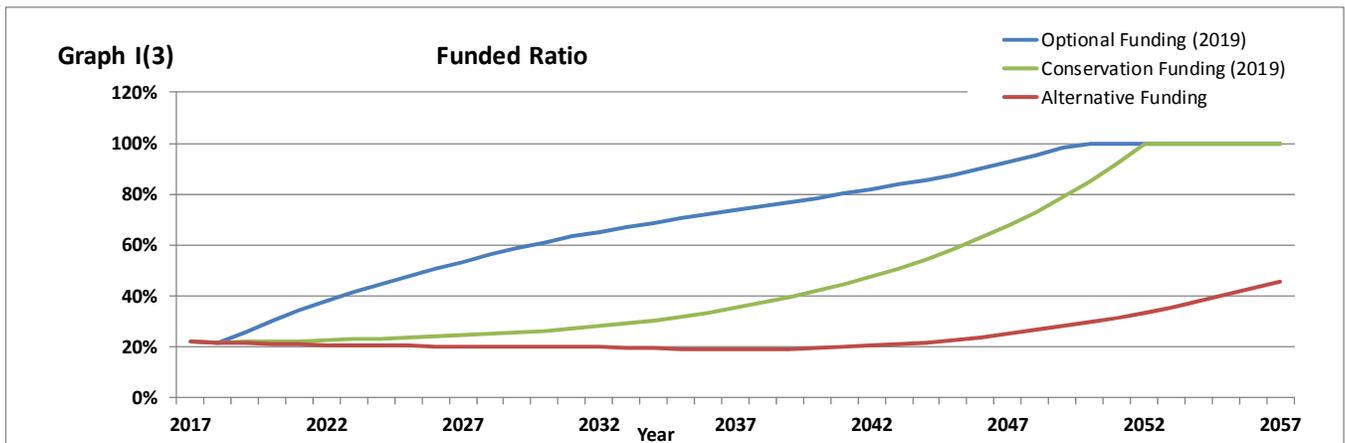
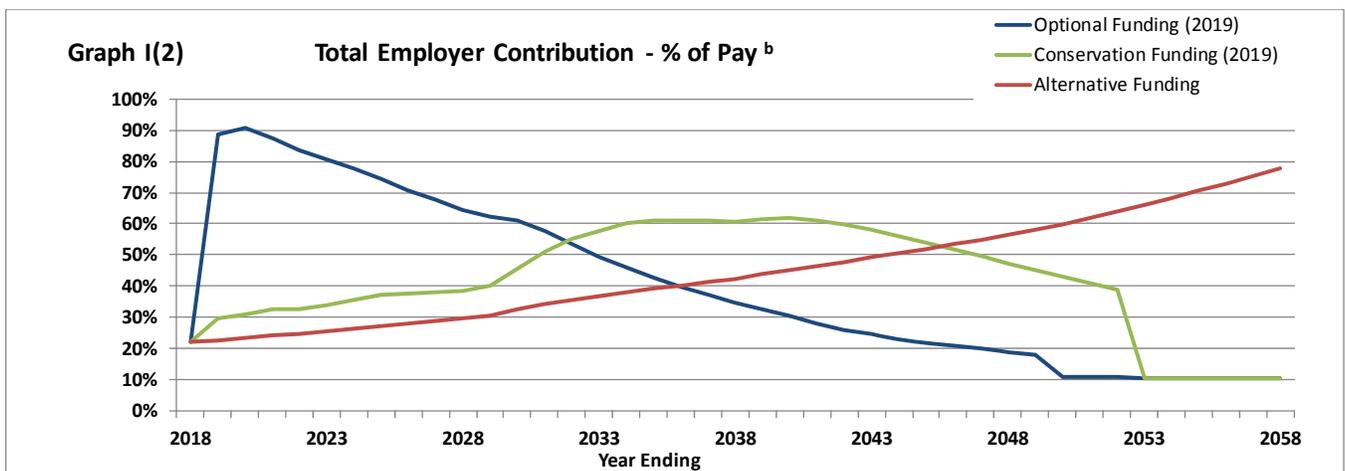
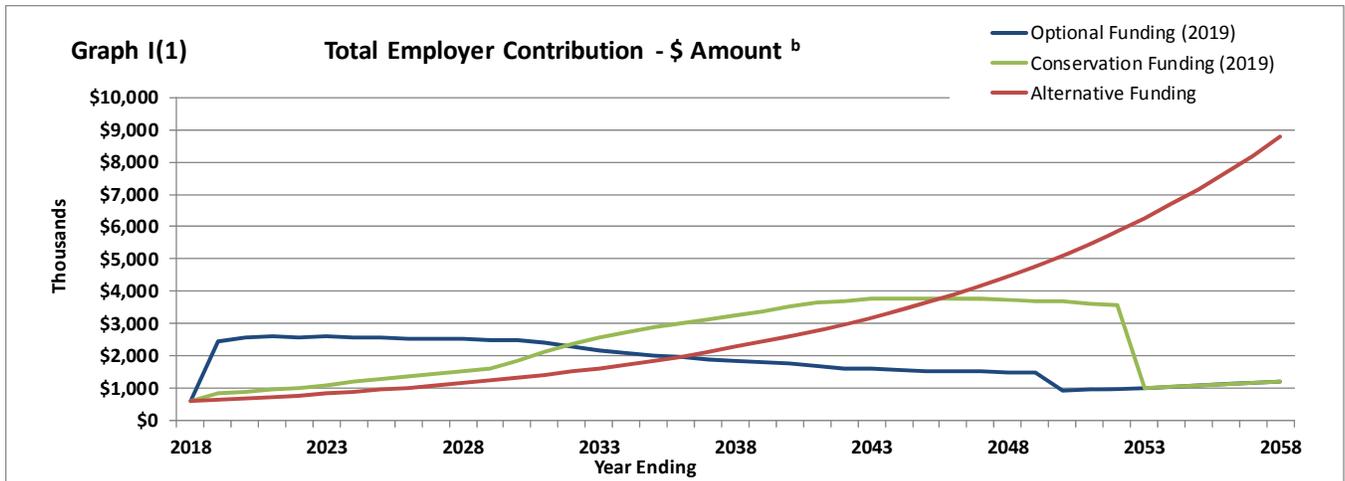
Under Scenario II, the plan sponsor is assumed to make contributions under the Alternative funding policy in future years, until the first year that either the Optional or Conservation policy produces a lower contribution. Under this assumption, the employer contributions under the Optional funding policy are not projected to be lower than contributions under the Alternative funding policy. In plan year end 2042, the employer contributions under the Conservation funding policy of \$2,901,075 are projected to be lower than contributions under the Alternative funding policy of \$2,970,971.

Graphs II(1), II(2), and III(3) show the projected contribution pattern and funded ratio. Based on these projections, the Conservation funding policy has lower projected employer contributions than the Alternative funding policy beginning in 2042. After 2042, the funded ratio under the Conservation funding policy increases at a lower rate than the Alternative funding policy. As stated above, however, the Conservation funding policy is dependent on expected benefits payments when considering the *expected number of retirement and disabilities*. The ultimate employer contributions depend on the *actual number of retirement and disabilities*, which could result in a more volatile contribution pattern when compared to the Optional funding policy.

The details of the Scenario II projections can be found in the Appendix.

Actuarial Projections –Alternative/Optional/Conservation Funding^a (Continued)

Scenario I

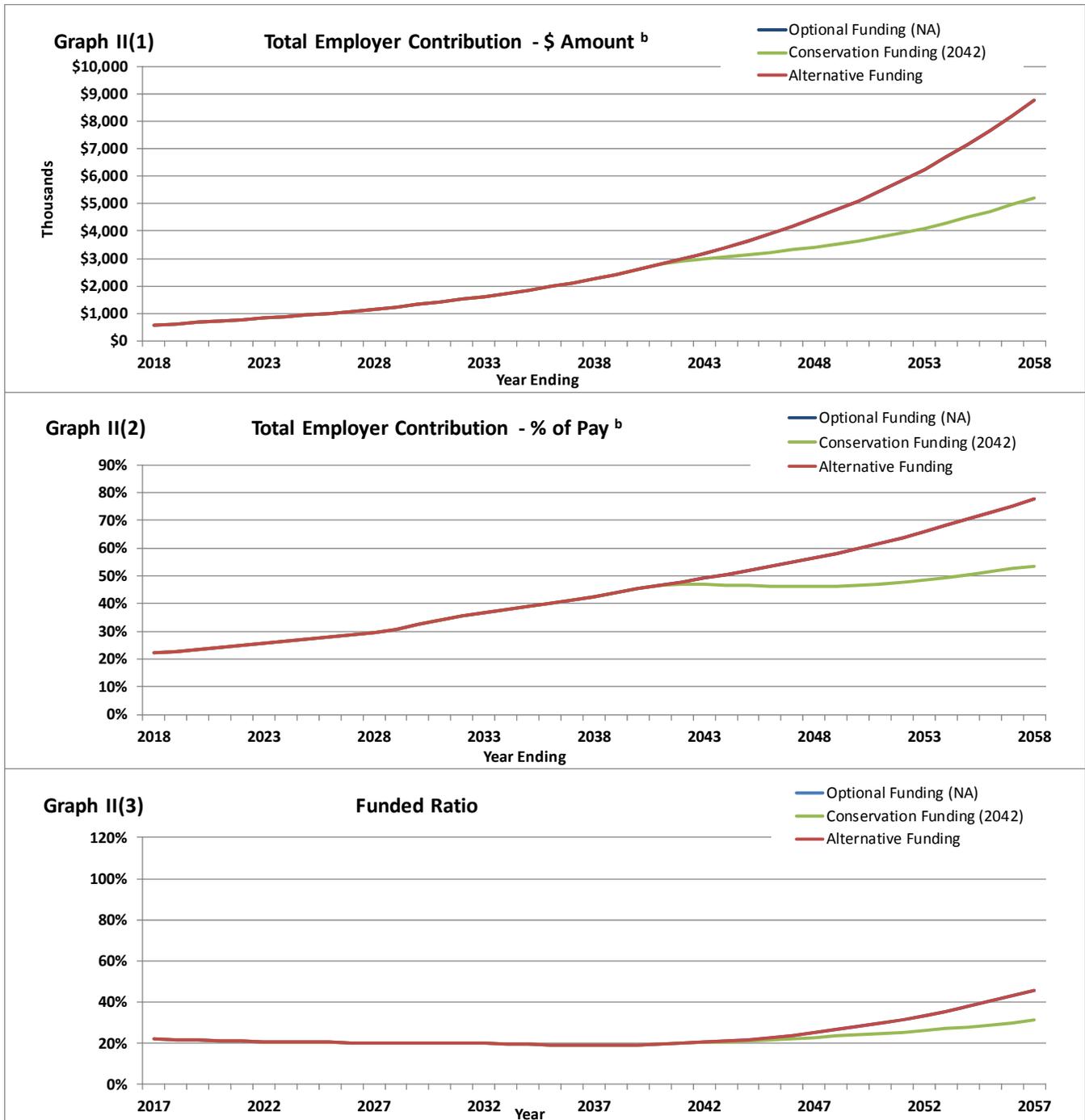


^a Assumes Sponsor elects either the Optional funding policy or Conservation funding policy in fiscal year end June 30, 2019, and makes the newly elected contribution in fiscal year end June 30, 2019.

^b Based on total pay and includes contributions for future members projected to participate in the statewide plan.

Actuarial Projections –Alternative/Optional/Conservation Funding^a (Continued)

Scenario II



^a Assumes Sponsor elects either the Optional funding policy or Conservation funding policy in the first year that contributions are lower than under the Alternative funding policy.

^b Based on total pay and includes contributions for future members projected to participate in the statewide plan.

SECTION IV

ACTUARIALLY DETERMINED CONTRIBUTION FOR GASB STATEMENT NOS. 67 AND 68 REPORTING

Actuarially Determined Contribution for GASB Statement Nos. 67 and 68 Reporting

Schedule C: Funding Progress and Employer Contributions

Valuation Date	July 1, 2016	July 1, 2017
Valuation Interest Rate	4.50%	4.50%
Cost-of-Living Adjustment	2.75%	2.75%
Wage Inflation	3.75%	3.75%
Actuarial Value of Assets	Market	Market
Actuarial Cost Method	Entry Age Normal	Entry Age Normal
Remaining Amortization Period ^a	24 Years, Level % of Pay	23 Years, Level % of Pay
Schedule of Funding Progress		
Actuarial Valuation Date	July 1, 2016	July 1, 2017
1. Market Value of Assets	\$7,869,158	\$8,337,546
2. Actuarial Accrued Liability	\$36,560,837	\$37,803,918
3. Unfunded Actuarial Accrued Liability (2 - 1)	\$28,691,679	\$29,466,372
4. Funded Ratio (1/2)	22%	22%
5. Expected Payroll	\$2,543,082	\$2,643,190
6. UAAL as Percentage of Covered Payroll (3/5)	1,128%	1,115%
Schedule of Employer Contributions ^c		
1. Actuarially Determined Contribution	FYE 2017	FYE 2018
(a) Employer Normal Cost	\$1,113,051	\$1,172,250
(b) Amortization of Unfunded Actuarial Accrued Liability	\$1,297,117	\$1,385,203
(c) Actuarially Determined Contribution (ADC) (a + b)	\$2,410,168	\$2,557,453
2. Employer Contribution ^b	\$622,400	\$585,718
3. Premium Tax Allocation	\$436,496	\$427,263
4. Percentage of ADC Contributed [(2 + 3)/1(c)]	44%	40%

^a Suggested amortization policy to comply with GASB Statement Nos. 67 and 68 Standards.

^b Estimated employer contribution for fiscal year end June 30, 2018.

^c The Alternative minimum contribution plus the premium tax allocation does not satisfy the Actuarially Determined Contribution as defined by GASB Statement Nos. 67 and 68.

SECTION V

ACTUARIAL VALUATION DATA AS OF JULY 1, 2017

Actuarial Valuation Data as of July 1, 2017

Schedule D: Reconciliation of Assets

Plan Year Ending	June 30, 2016	June 30, 2017
A. Market Value of Assets End of Prior Year	\$7,791,543	\$7,869,158
Adjustment to Market Value of Assets at Beginning of Year	\$0	\$1,508
Market Value of Assets Beginning of Year	\$7,791,543	\$7,870,666
1. Revenue During Fiscal Year		
(a) Employee Contribution	\$222,731	\$219,978
(b) Governmental Contribution		
(i) From Local Government	\$586,589	\$622,400
(ii) From State Government	\$434,432	\$436,496
(iii) Reallocation from State Government	\$0	\$0
(iv) Total	\$1,021,021	\$1,058,896
(c) Earnings on Investments		
(i) Net Appreciation/(Depreciation)	(\$12,113)	\$399,620
(ii) Bond Interest	\$6,095	\$7,210
(iii) Dividends	\$190,573	\$184,299
(iv) Net Realized Gain (Loss) on Sale/Exchange	\$0	\$0
(v) Other	\$0	\$0
(vi) Less Investment Expense	(\$23,475)	(\$25,449)
(vii) Total	\$161,080	\$565,680
(d) Other Revenue	\$0	\$0
(e) Receivable Investment Income/(Expense)	\$0	\$0
(f) Receivable Contribution ^a		
(i) From Employee Contributions	\$0	\$0
(ii) From Local Government	\$0	\$0
(iii) From State Government	\$0	\$0
(iv) Total	\$0	\$0
(g) Total Revenue (sum of (a) through (f))	\$1,404,832	\$1,844,554
2. Expenditures During Fiscal Year		
(a) Benefits Paid	\$1,264,267	\$1,294,195
(b) Withdrawals	\$61,442	\$76,971
(c) Administrative Expenses	\$0	\$5,000
(d) Payable Benefits and Withdrawals	\$1,508	\$1,508
(e) Payable Administrative Expenses	\$0	\$0
(f) Total Expenditures (sum of (a) through (e))	\$1,327,217	\$1,377,674
B. Market Value of Assets End of Year		
[A + 1(g) - 2(f)]	\$7,869,158	\$8,337,546
C. Approximate Return on Assets	2.08%	7.17%

^a Receivable contributions for each respective plan year ending.

Actuarial Valuation Data as of July 1, 2017

Schedule E: Assets Held by Category

Plan Year Ending	June 30, 2016		June 30, 2017	
1. Cash and Short-term Investments	\$570,988	7%	\$465,016	6%
2. Government Securities				
(a) US Treasury Bills, Notes and Bonds	\$0		\$0	
(b) US State and Local Governmental Debt Securities	\$0		\$0	
(c) Foreign Governmental Debt Securities	\$0		\$0	
(d) Other	\$0		\$0	
(e) Total Government Securities (sum of (a) through (d))	\$0	0%	\$0	0%
3. Corporate Fixed Income				
(a) US Bonds	\$0		\$0	
(b) US Mortgage or other Asset Backed Securities	\$0		\$0	
(c) US Mutual Fund Shares (Bonds)	\$900,071		\$963,831	
(d) US Exchange Traded Funds (Bonds)	\$3,448,208		\$3,716,070	
(e) International Bonds	\$0		\$0	
(f) International Mutual Fund Shares (Bonds)	\$0		\$0	
(g) International Exchange Traded Funds (Bonds)	\$0		\$0	
(h) Total Corporate Fixed Income (sum of (a) through (g))	\$4,348,279	55%	\$4,679,901	56%
4. Corporate Equity				
(a) US Equity	\$609,046		\$666,470	
(b) US Mutual Fund Shares (Equity)	\$914,012		\$972,581	
(c) US Exchange Traded Funds (Equity)	\$0		\$0	
(d) International Equity	\$752,594		\$823,898	
(e) International Mutual Fund Shares (Equity)	\$675,747		\$731,188	
(f) International Exchange Traded Funds (Equity)	\$0		\$0	
(g) Total Corporate Equity (sum of (a) through (f))	\$2,951,399	38%	\$3,194,137	38%
5. Alternative Investments				
(a) Real Estate Investment Trust	\$0		\$0	
(b) Private Equity Fund	\$0		\$0	
(c) Hedge Funds	\$0		\$0	
(d) Other Alternative Investments	\$0		\$0	
(e) Total Alternative Investments (sum of (a) through (d))	\$0	0%	\$0	0%
6. Other	\$0	0%	\$0	0%
7. Receivable Contributions				
(a) From Employee Contributions	\$0		\$0	
(b) From Local Government	\$0		\$0	
(c) From State Government	\$0		\$0	
(d) Total Receivable Contributions (sum of (a) through (c))	\$0	0%	\$0	0%
8. Accruals				
(a) Receivable (other than State and Local Contributions)	\$0		\$0	
(b) Less Payable	(\$1,508)		(\$1,508)	
(c) Total	(\$1,508)	0%	(\$1,508)	0%
Market Value of Assets End of Year	\$7,869,158		\$8,337,546	
[sum of (1) through (8)]				

Actuarial Valuation Data as of July 1, 2017

Schedule F: Summary of Participant Activity

	Actives	Retirees	Disabled	Deferred Vested	Spouses and Beneficiaries	Totals
Total Participants July 1, 2016:	45	23	8	0	10	86
New Actives:	2					2
Returned to Actives Status:						0
Data Corrections/Other Changes:						0
Vested Terminations:						0
Non-Vested Terminations:	(3)					(3)
Disabled:						0
Retirements:						0
Deaths with Beneficiary:						0
Deaths w/o Beneficiary:					(1)	(1)
Expired Annuity or Stop Payment:					(1)	(1)
Net Changes:	(1)	0	0	0	(2)	(3)
Total Participants June 30, 2017:	44	23	8	0	8	83

Actuarial Valuation Data as of July 1, 2017

Schedule G: Distribution of Active Employees by Age and Length of Service

Attained Age	Years of Service to Valuation Date									Totals	Valuation Payroll ^a
	Less than 1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 35		
Under 20											\$ 0
20-24	1									1	\$ 41,590
25-29		5	1							6	\$ 322,770
30-34		2	2	2						6	\$ 308,655
35-39	1	1	3	9	2					16	\$ 966,894
40-44			3	4	2					9	\$ 522,530
45-49					2	2				4	\$ 303,548
50-54				1	1					2	\$ 140,934
55-59											\$ 0
60-64											\$ 0
65-69											\$ 0
Over 70											\$ 0
Totals	2	8	9	16	7	2	0	0	0	44	\$ 2,606,922
Averages _____											
Age: 37.9 years											
Service: 10.0 years											
Annual Pay: \$59,248 ^a											

^a Based on payroll at beginning of plan year.

Actuarial Valuation Data as of July 1, 2017

Schedule H: Participants Summary

Active Participants	July 1, 2016	July 1, 2017
Number of Actives	45	44
Total Annual Pay	\$2,511,632	\$2,606,922
Average Age	36.9	37.9
Average Service	9.2	10.0

Inactive Participants	July 1, 2016		July 1, 2017	
	Type	No.	Annual Benefit	No.
Retirees	23	\$1,011,488	23	\$1,019,367
Survivors	10	\$109,390	8	\$99,225
Disabled Members	8	\$191,843	8	\$194,250
Deferred Vested Members	0	\$0	0	\$0

**Data provided includes 2 non-vested members with accumulated contributions balances of \$1,508.*

SECTION VI

ACTUARIAL ASSUMPTIONS AND METHODS

Actuarial Assumptions and Methods Used in the Valuation as of July 1, 2017

Discount Rate

The following table outlines the factors used to determine the discount rate:

Funded Ratio as of Valuation Date ¹	Liquidity Ratio ²	Equity Exposure ³	Projected Funded Ratio after 15 Years ¹	Discount Rate
60% or more	10	50% or more	70% or more	6.5%
40% or more	8	40% or more	60% or more	6.0%
30% or more	6	30% or more	50% or more	5.5%
15% or more	4	n/a	40% or more	5.0%
Less than 15%	n/a	n/a	15% or more	4.5%
Less than 15%	n/a	n/a	Less than 15%	4.0%

¹Funded ratios based on a 6.0% investment return assumption for plans using an actuarially sound policy (standard or optional) and a 5.5% investment return assumption for other plans (alternative or conservation).

²Liquidity ratio equals assets as of the actuarial valuation date divided by expected benefit payments for the year.

³Based on investment policy.

As of June 30, 2017	
Assets	\$8,337,546
Liabilities using a 5.50% discount rate	\$32,584,859
Funded Ratio	26%
Expected Benefit Payments	\$1,354,244
Liquidity Ratio	6.16
Equity Exposure	38%
Projected Funded Ratio after 15 years	27%

Discount Rate

4.50%

Actuarial Assumptions and Methods Used in the Valuation as of July 1, 2017 (Continued)

The premium tax allocation is projected using the following methodology:

- (1) The Base Allocation for all Pension and Relief Funds is a fixed amount equal to \$8,709,689 in all future years. This amount is allocated to each individual Pension and Relief Fund in proportion to the number of eligible members, which includes active members covered in either the Pension and Relief Fund or the statewide plan, Municipal Police Officers and Firefighters Retirement System (“MPFRS”).
- (2) The Excess Allocation is equal to the excess of the current year premium tax assigned to all Pension and Relief Funds over the total Base Allocation. This amount is allocated to each individual Pension and Relief Fund in proportion to the number of eligible active and retired members covered in either the Pension and Relief Fund or the MPFRS.
- (3) We have assumed all Pension and Relief Funds will make the minimum statutory contribution requirement and will receive 100% of both the Base Allocation and the Excess Allocation assigned to the individual plan. Consequently, the projections do not include any reallocation of Expired Premium Tax Allocation for plan years beginning on and after July 1, 2019.
- (4) The total available premium tax allocation, net of expenses, as of September 1, 2018, includes a Base Allocation of \$8,709,689, an Excess Allocation of \$9,570,473, and an Expired Premium Tax Allocation of \$237,031.
- (5) For the plan year ending June 30, 2018, all Pension and Relief Funds reported a total of 1,717 eligible active members and 2,165 eligible retired members. The City of Martinsburg Policemen’s Pension and Relief Fund reported 44 eligible active members and 39 eligible retired members, based on the average number of plan participants for the 12-month period ending June 30, 2018. The Fund is eligible to receive a premium tax allocation of \$435,474 for the fiscal year ending June 30, 2019.
- (6) The total premium tax allocation was assumed to increase by 2.75% in calendar years ending on and after 2019.

Actuarial Assumptions and Methods Used in the Valuation as of July 1, 2017 (Continued)

General Inflation	2.75%																		
Expected Salary Increase	General Inflation: 2.75% <i>plus</i>																		
Service-based Increase:	Wage Inflation Increment: 1.00% <i>plus</i>																		
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>Years of Service</u></th> <th style="text-align: center;"><u>Increase</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">20.00%</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">6.50%</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">3.50%</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">2.75%</td> </tr> <tr> <td style="text-align: center;">5-9</td> <td style="text-align: center;">2.50%</td> </tr> <tr> <td style="text-align: center;">10-29</td> <td style="text-align: center;">2.00%</td> </tr> <tr> <td style="text-align: center;">30-34</td> <td style="text-align: center;">1.25%</td> </tr> <tr> <td style="text-align: center;">after 34 years of service</td> <td style="text-align: center;">0.00%</td> </tr> </tbody> </table>	<u>Years of Service</u>	<u>Increase</u>	1	20.00%	2	6.50%	3	3.50%	4	2.75%	5-9	2.50%	10-29	2.00%	30-34	1.25%	after 34 years of service	0.00%
<u>Years of Service</u>	<u>Increase</u>																		
1	20.00%																		
2	6.50%																		
3	3.50%																		
4	2.75%																		
5-9	2.50%																		
10-29	2.00%																		
30-34	1.25%																		
after 34 years of service	0.00%																		
Post-retirement COLA	2.75% on first \$15,000 of Annual Benefit and on the accumulated supplemental pension amounts for prior years. Assumed to be payable to all members receiving payments.																		
Increase in State Insurance Premium Tax Allocation	2.75% on and after year 1																		
Cost Method	Entry-Age-Normal, Level-Percentage-of-Pay																		
<i>Amortization Policies:</i>																			
Alternative Plans and former Alternative Plans that selected the Conservation Policy	For GASB 67/68 Accounting: 30 – Year Closed Level-Percentage-of-Pay Amortization (from July 1, 2010 – 23 years remaining as of July 1, 2017).																		
Standard Plans and former Standard Plans that selected the Optional Policy	For funding and GASB 67/68 Accounting: 40-Year Closed Level-Dollar Amortization (from July 1, 1991 – 14 years remaining as of July 1, 2017)																		
Former Alternative Plans that selected the Optional Policy	For funding: 40-Year Closed Level-Dollar Amortization (from January 1, 2010 – 32.5 years remaining as of July 1, 2017). For GASB 67/68 Accounting: 30-Year Closed Level-Percentage-of-Pay Amortization (from July 1, 2010 – 23 years remaining as of July 1, 2017)																		

Actuarial Assumptions and Methods Used in the Valuation as of July 1, 2017 (Continued)

Asset Method	Market Value										
Turnover	<p>Sample Rates –</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Age</u></th> <th style="text-align: right;"><u>Rates</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">25</td> <td style="text-align: right;">9%</td> </tr> <tr> <td style="text-align: left;">35</td> <td style="text-align: right;">4%</td> </tr> <tr> <td style="text-align: left;">45</td> <td style="text-align: right;">2%</td> </tr> <tr> <td style="text-align: left;">50</td> <td style="text-align: right;">0%</td> </tr> </tbody> </table>	<u>Age</u>	<u>Rates</u>	25	9%	35	4%	45	2%	50	0%
<u>Age</u>	<u>Rates</u>										
25	9%										
35	4%										
45	2%										
50	0%										
Retirement	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Age</u></th> <th style="text-align: right;"><u>Rates^a</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">50</td> <td style="text-align: right;">45%</td> </tr> <tr> <td style="text-align: left;">51-55</td> <td style="text-align: right;">30%</td> </tr> <tr> <td style="text-align: left;">56-59</td> <td style="text-align: right;">35%</td> </tr> <tr> <td style="text-align: left;">60</td> <td style="text-align: right;">100%</td> </tr> </tbody> </table> <p>^aTerminated vested participants are assumed to retire at age 50.</p>	<u>Age</u>	<u>Rates^a</u>	50	45%	51-55	30%	56-59	35%	60	100%
<u>Age</u>	<u>Rates^a</u>										
50	45%										
51-55	30%										
56-59	35%										
60	100%										
Mortality	<p>Active: RP-2014 Blue Collar Healthy Employee^b</p> <p>Post-Retirement: RP-2014 Blue Collar Healthy Annuitant</p> <p>Disabled: RP-2014 Blue Collar Healthy Annuitant set forward four years</p> <p>Tables above incorporate generational mortality improvement using MP-2014 2-dimensional mortality improvement scales</p> <p>^bAssumes 10% of deaths are duty-related and 90% are non-duty related.</p>										
Disability	<p>Sample Rates –</p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><u>Age</u></th> <th style="text-align: right;"><u>Rates^c</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">30</td> <td style="text-align: right;">0.22%</td> </tr> <tr> <td style="text-align: left;">40</td> <td style="text-align: right;">0.50%</td> </tr> <tr> <td style="text-align: left;">50</td> <td style="text-align: right;">0.79%</td> </tr> </tbody> </table> <p>^cAssumes 60% duty related and 40% non-duty related. Also assumes 10% of non-duty disabled members receive a 20% reduction in benefits due to gainful employment.</p>	<u>Age</u>	<u>Rates^c</u>	30	0.22%	40	0.50%	50	0.79%		
<u>Age</u>	<u>Rates^c</u>										
30	0.22%										
40	0.50%										
50	0.79%										
Percent Married	90%										
Spouse Age	Females 3 years younger than males										

Actuarial Assumptions and Methods Used in the Valuation as of July 1, 2017 (Continued)

Administrative Expenses	Administrative expenses used are equal to 0.25% of expected pay plus 0.25% of expected benefits. Future expenses assumed to increase by the general inflation assumption.
Refunds Paid	Assumes non-vested inactive members as of July 1, 2017, with accumulated member contribution balances will receive a refund of their contributions during plan year end June 30, 2018.
Data Adjustments and Assumptions	None
Child Beneficiaries	Future survivor widow benefits are loaded by 12% to estimate impact of benefits provided to survivor children. The load assumes 90% of members are married with two children at time of death, and benefits for each child are paid for approximately 8 years.
General Projection Methodology	<p>Open group projections assume:</p> <ul style="list-style-type: none"> (i) Salaries will increase and members will decrement as specified in the actuarial assumption section. (ii) Active members who retire, become disabled, die or terminate during the year are replaced with new entrants such that the number of active members remains stable during the projection period. Pay for new entrants in future years is increased by the wage inflation assumption. The average age of a new entrant is based on observed experience over the last five years. (iii) Assets grow at the assumed rate of return. (iv) The sponsor makes the statutory required contribution on a monthly basis. (v) Non-vested members with accumulated plan balances as of July 1, 2017, will receive a refund during plan year end June 30, 2018. <p>Closed group projections are the same as the open group projections except active members who retire, become disabled, die, or terminate are <u>not</u> replaced with new entrants.</p>
Decrement Timing	Mid-Year

SECTION VII

SUMMARY OF PRINCIPAL PLAN PROVISIONS

Summary of Principal Plan Provisions

Actuarial Valuation as of July 1, 2017

Employee Eligibility — All compensated employees of the Police Department are eligible to participate in the Policemen's Pension and Relief Fund.

Average Annual Compensation — The average of any three twelve-consecutive-month periods of employment which produces the highest average annual compensation.

Each twelve-consecutive-month annual compensation is limited to 120% of the *Average Adjusted Salary* received by the member in the two consecutive twelve-consecutive-month periods immediately preceding the twelve-consecutive-month period used in determining benefits.

The *Average Adjusted Salary* is base salary (exclusive of all overtime and other pay) of the year used in determining benefits multiplied by the ratio of total salary (includes all overtime and other pay) to base salary from the respective preceding twelve-consecutive-month period.

Determining Years of Service Credit (Credited Service) — The number of years that the member has contributed to the employees retirement and benefit fund.

Prior Military Service — A city may provide that members who have been honorably discharged from the military shall receive up to two years prior service credit for military service prior to their employment with the city.

Current Military Service — Any current member who has been on qualified military service in the armed forces of the United States with an honorable discharge may, within six months from his or her date of discharge, be given credit for continuous service in the paid police or fire department.

Any member who has served in active duty with the armed forces of the United States, whether prior to or subsequent to becoming a member of a paid police or fire department, shall receive one additional percent for each year so served in active military duty, up to a maximum of four additional percent.

Absence from the service because of sickness or injury for a period of two years or less shall not be construed as time out of service.

Contributions — Participating employees contribute 8.0% of compensation. Participating employees hired on or after January 1, 2010 contribute 9.5% of compensation. The municipality has elected to contribute the minimum employer contribution under the Alternative funding policy.

Normal Retirement — Members are eligible at the earlier of age 50 with 20 years of credited service or age 65.

Benefit Commencement — Annual retirement pension benefits commence upon retirement or upon the member attaining age fifty, whichever is later, payable in twelve monthly installments.

Summary of Principal Plan Provisions

Actuarial Valuation as of July 1, 2017 (Continued)

Accrued Benefit — The annual retirement benefit equals 60% of average annual compensation, not less than \$6,000, plus an additional percentage of average annual compensation for service over 20 years equal to 2% for each year of service between 20 and 25 and 1% for each year of service between 25 and 30 years. Employees serving in the military are eligible for an additional 1% of average annual compensation for each year of military service up to four years. The maximum benefit is limited to 75% of average annual compensation. Benefits continue for life.

Disability Retirement — Members are eligible after earning five years of service. No service requirement if disability is service related.

The monthly disability benefit equals the greater of 60% of monthly salary at disability or \$500. Employees serving in the military are eligible for an additional benefit of 1% of monthly salary at disability for each year of military service up to four years. Disability benefits, when aggregated with monthly state workers compensation benefits, shall not exceed 100% of the member's monthly compensation at the time of disability. Benefits continue for life or until recovery.

Death Benefits — Members are eligible after earning five years of service. No service requirement if death is service related. Retirees and terminated vested participants are also eligible.

The benefit is equal to 60% of the participant's benefit, but not less than \$300 per month, payable to the spouse until death or remarriage. Other dependents (children, parents, brothers and sisters) are also eligible for death benefits. To each dependent child, 20 percent of the participant's benefit until the child attains eighteen or marries; to each dependent orphaned child, 25 percent of the participant's benefit until the child attains 18 or marries; to each dependent parent, 10 percent of the participant's benefit for life, and to each dependent brother or sister, the sum of fifty dollars per month (but a total not to exceed \$100 per month) until such individual attains the age of eighteen years or marries.

In no case shall the payments to the surviving spouse and children be reduced below 65 percent of the total amount paid to all dependents.

Supplemental Pension Benefits — All retirees, surviving beneficiaries and disability pensioners are eligible for automatic cost-of-living benefits commencing on the first day of July following two years of retirement. The benefits equal the percentage increase in the Consumer Price Index, limited to 4% (2% for some disability retirees), multiplied by the sum of the allowable amount which is the first \$15,000 of the total annual benefits paid and the accumulated supplemental pension amounts for prior years.

Termination Benefits — Any member who terminates employment prior to retirement will be entitled to a refund of contributions without interest.

Refunds — Any member who terminates from their department without receiving a retirement pension shall be refunded all deductions made from his salary, without interest. Any member who receives such a refund and subsequently wishes to reenter the department must repay to the pension fund all sums refunded with interest at the rate of eight percent annual.

SECTION VIII

APPENDIX – PROJECTION DATA

Actuarial Projections – Optional Funding in 2019

Table A-1

Valuation Plan Year End 30-Jun	Number		Total Assets								Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
	Active	Pay Status	Assets (boy)	Benefit Payments	Expenses	Employer Contribs.	Member Contribs.	Premium Tax		Assets (eoy)			
								Allocation Contribs.	Investment Income				
2017	44	39	\$7,870,666	\$1,372,674	\$5,000	\$622,400	\$219,978	\$436,496	\$565,680	\$8,337,546	\$37,803,918	\$29,466,372	22%
2018	42	39	8,337,546	1,354,244	9,994	585,718	222,236	427,263	372,319	8,580,844	39,536,038	30,955,194	22%
2019	41	39	8,580,844	1,379,553	10,052	2,441,671	226,651	435,474	424,283	10,719,318	41,348,786	30,629,468	26%
2020	38	40	10,719,318	1,441,830	10,129	2,564,809	226,302	447,875	522,135	13,028,480	43,175,151	30,146,671	30%
2021	36	41	13,028,480	1,515,245	10,223	2,557,033	225,085	459,972	624,480	15,369,583	44,997,736	29,628,153	34%
2022	35	41	15,369,583	1,566,048	10,322	2,537,596	226,182	470,401	728,521	17,755,913	46,854,784	29,098,871	38%
2023	32	41	17,755,913	1,628,272	10,429	2,529,223	225,099	481,459	834,555	20,187,548	48,719,572	28,532,024	41%
2024	30	42	20,187,548	1,716,679	10,407	2,508,397	221,222	491,702	941,690	22,623,472	50,545,942	27,922,470	45%
2025	28	43	22,623,472	1,804,743	10,541	2,466,147	217,921	505,784	1,048,644	25,046,684	52,336,050	27,289,366	48%
2026	27	44	25,046,684	1,874,243	10,682	2,426,375	216,321	519,418	1,155,522	27,479,394	54,118,225	26,638,831	51%
2027	25	45	27,479,394	1,940,500	10,836	2,395,092	214,688	533,575	1,263,098	29,934,511	55,894,378	25,959,867	54%
2028	24	45	29,934,511	2,010,771	11,006	2,362,046	213,171	549,025	1,371,585	32,408,562	57,660,588	25,252,026	56%
2029	22	47	32,408,562	2,112,601	11,180	2,329,346	208,628	564,675	1,480,167	34,867,597	59,367,699	24,500,102	59%
2030	18	50	34,867,597	2,318,851	11,360	2,281,018	192,438	582,594	1,585,193	37,178,629	60,829,699	23,651,070	61%
2031	15	52	37,178,629	2,560,992	11,543	2,160,493	170,733	608,546	1,681,210	39,227,076	61,963,356	22,736,280	63%
2032	13	53	39,227,076	2,759,366	11,723	2,008,240	152,550	631,867	1,765,698	41,014,342	62,827,164	21,812,822	65%
2033	11	54	41,014,342	2,930,107	11,900	1,877,594	136,425	654,958	1,839,569	42,580,881	63,452,179	20,871,298	67%
2034	9	55	42,580,881	3,088,571	12,077	1,761,372	120,488	677,685	1,904,099	43,943,876	63,841,220	19,897,344	69%
2035	7	56	43,943,876	3,225,291	12,253	1,645,039	106,408	702,026	1,960,027	45,119,832	64,018,221	18,898,389	70%
2036	6	56	45,119,832	3,325,737	12,427	1,540,880	95,944	724,263	2,008,650	46,151,406	64,034,332	17,882,926	72%
2037	5	56	46,151,406	3,416,300	12,597	1,457,086	85,195	746,134	2,051,435	47,062,359	63,891,884	16,829,525	74%
2038	4	56	47,062,359	3,505,740	12,762	1,373,086	73,999	769,570	2,088,837	47,849,349	63,584,053	15,734,704	75%
2039	3	57	47,849,349	3,617,407	12,921	1,288,379	59,929	793,137	2,120,090	48,480,556	63,068,695	14,588,139	77%
2040	2	57	48,480,556	3,745,389	13,073	1,191,106	43,150	819,933	2,143,701	48,919,984	62,307,697	13,387,713	79%
2041	1	56	48,919,984	3,826,657	13,219	1,082,816	30,956	846,930	2,159,583	49,200,393	61,363,119	12,162,726	80%
2042	1	56	49,200,393	3,864,701	13,359	994,033	23,361	872,538	2,169,777	49,382,042	60,295,696	10,913,654	82%
2043	1	55	49,382,042	3,894,090	13,492	926,162	16,597	898,514	2,176,212	49,491,944	59,114,085	9,622,141	84%
2044	0	54	49,491,944	3,908,269	13,619	863,455	11,345	926,071	2,179,940	49,550,867	57,837,558	8,286,691	86%
2045	0	54	49,550,867	3,902,761	13,739	808,261	7,992	953,637	2,182,021	49,586,279	56,491,762	6,905,483	88%
2046	0	53	49,586,279	3,887,186	13,853	760,346	5,478	982,167	2,183,472	49,616,703	55,088,269	5,471,566	90%
2047	0	52	49,616,703	3,862,796	13,959	715,850	3,652	1,011,653	2,185,007	49,656,110	53,637,097	3,980,987	93%
2048	0	51	49,656,110	3,830,730	14,056	673,130	2,390	1,042,329	2,187,195	49,716,368	52,146,910	2,430,542	95%
2049	0	50	49,716,368	3,793,283	14,145	631,398	1,387	1,073,868	2,190,489	49,806,082	50,622,829	816,747	98%
2050	0	48	49,806,082	3,750,782	14,224	19,610	609	831,916	2,176,455	49,069,666	49,069,666	0	100%
2051	0	47	49,069,666	3,701,805	14,293	15,309	268	0	2,125,789	47,494,935	47,494,935	0	100%
2052	0	46	47,494,935	3,647,916	14,350	15,036	180	0	2,056,116	45,904,001	45,904,001	0	100%
2053	0	45	45,904,001	3,591,271	14,396	14,672	73	0	1,985,773	44,298,852	44,298,852	0	100%
2054	0	44	44,298,852	3,531,573	14,430	14,431	0	0	1,914,862	42,682,142	42,682,142	0	100%
2055	0	43	42,682,142	3,468,687	14,451	14,451	0	0	1,843,510	41,056,965	41,056,965	0	100%
2056	0	42	41,056,965	3,403,291	14,458	14,458	0	0	1,771,832	39,425,506	39,425,506	0	100%
2057	0	40	39,425,506	3,335,475	14,451	14,451	0	0	1,699,925	37,789,957	37,789,957	0	100%

Actuarial Projections – Optional Funding in 2019

Table A-2

Employer Contributions

Valuation Plan Year End 30-Jun ^a	Closed Group Payroll	New Entrant Payroll	Total Payroll	Employee Contributions	Gross Normal Cost	Net Employer Normal Cost	Amortization of UAAL	Premium Tax Allocation Contributions	Net Employer Amortization	Expenses	Optional Employer Contribution	Statewide Employer Contribution
2018	\$2,643,190	\$0	\$2,643,190	\$222,236	\$1,384,492	\$1,162,256	\$1,704,895	\$435,474	\$1,269,421	\$9,994	\$2,441,671	\$0
2019	2,695,639	66,596	2,762,235	226,651	1,412,545	1,185,894	1,816,738	447,875	1,368,863	10,052	2,564,809	6,993
2020	2,689,035	157,895	2,846,930	226,302	1,408,191	1,181,889	1,824,987	459,972	1,365,015	10,129	2,557,033	16,579
2021	2,671,616	294,645	2,966,261	225,085	1,397,602	1,172,517	1,825,258	470,401	1,354,857	10,223	2,537,596	30,938
2022	2,682,961	411,998	3,094,958	226,182	1,401,853	1,175,671	1,824,689	481,459	1,343,230	10,322	2,529,223	43,260
2023	2,666,748	538,345	3,205,093	225,099	1,389,908	1,164,809	1,824,861	491,702	1,333,159	10,429	2,508,397	56,526
2024	2,615,091	697,068	3,312,159	221,222	1,358,576	1,137,354	1,824,169	505,784	1,318,385	10,407	2,466,147	73,192
2025	2,570,082	870,264	3,440,346	217,921	1,330,879	1,112,958	1,822,294	519,418	1,302,876	10,541	2,426,375	91,378
2026	2,545,799	1,038,841	3,584,640	216,321	1,313,797	1,097,476	1,820,508	533,575	1,286,933	10,682	2,395,092	109,078
2027	2,520,696	1,210,471	3,731,167	214,688	1,295,613	1,080,925	1,819,310	549,025	1,270,285	10,836	2,362,046	127,099
2028	2,496,821	1,395,698	3,892,519	213,171	1,278,132	1,064,961	1,818,055	564,675	1,253,380	11,006	2,329,346	146,548
2029	2,434,734	1,584,240	4,018,975	208,628	1,244,265	1,035,637	1,816,794	582,594	1,234,200	11,180	2,281,018	166,345
2030	2,226,653	1,816,297	4,042,950	192,438	1,135,622	943,184	1,814,495	608,546	1,205,949	11,360	2,160,493	190,711
2031	1,952,617	2,184,874	4,137,491	170,733	992,188	821,455	1,807,109	631,867	1,175,242	11,543	2,008,240	229,412
2032	1,728,374	2,530,212	4,258,586	152,550	876,682	724,132	1,796,697	654,958	1,141,739	11,723	1,877,594	265,672
2033	1,532,256	2,868,622	4,400,878	136,425	775,892	639,467	1,787,689	677,685	1,110,004	11,900	1,761,372	301,205
2034	1,340,561	3,207,403	4,547,964	120,488	675,940	555,452	1,779,535	702,026	1,077,509	12,077	1,645,039	336,777
2035	1,170,964	3,561,013	4,731,976	106,408	588,133	481,725	1,771,165	724,263	1,046,902	12,253	1,540,880	373,906
2036	1,045,111	3,887,542	4,932,653	95,944	523,387	427,443	1,763,350	746,134	1,017,216	12,427	1,457,086	408,192
2037	921,257	4,212,714	5,133,971	85,195	458,124	372,929	1,757,130	769,570	987,560	12,597	1,373,086	442,335
2038	795,750	4,550,645	5,346,394	73,999	392,064	318,065	1,750,690	793,137	957,553	12,762	1,288,379	477,818
2039	642,194	4,886,849	5,529,043	59,929	314,284	254,355	1,743,764	819,933	923,831	12,921	1,191,106	513,119
2040	461,040	5,262,263	5,723,303	43,150	224,630	181,480	1,735,193	846,930	888,263	13,073	1,082,816	552,538
2041	329,508	5,633,039	5,962,546	30,956	159,817	128,861	1,724,490	872,538	851,952	13,219	994,033	591,469
2042	248,019	5,967,997	6,216,016	23,361	119,294	95,933	1,715,383	898,514	816,869	13,359	926,162	626,640
2043	175,923	6,293,146	6,469,069	16,597	83,955	67,358	1,708,676	926,071	782,605	13,492	863,455	660,780
2044	120,019	6,617,990	6,738,009	11,345	57,305	45,960	1,702,319	953,637	748,682	13,619	808,261	694,889
2045	84,302	6,931,295	7,015,597	7,992	40,229	32,237	1,696,537	982,167	714,370	13,739	760,346	727,786
2046	57,663	7,243,418	7,301,082	5,478	27,447	21,969	1,691,681	1,011,653	680,028	13,853	715,850	760,559
2047	38,444	7,556,082	7,594,527	3,652	18,201	14,549	1,686,952	1,042,329	644,623	13,959	673,130	793,389
2048	25,153	7,873,491	7,898,644	2,390	11,847	9,457	1,681,752	1,073,868	607,884	14,056	631,398	826,717
2049	14,602	8,193,103	8,207,705	1,387	6,852	5,465	1,674,577	831,916	567,704	14,145	19,610	^b 860,276
2050	6,413	8,508,839	8,515,251	609	2,986	2,377	0	0	0	14,224	15,309	^b 893,428
2051	2,822	8,828,471	8,831,293	268	1,285	1,017	0	0	0	14,293	15,036	^b 926,989
2052	1,893	9,153,530	9,155,423	180	863	683	0	0	0	14,350	14,672	^b 961,121
2053	766	9,481,420	9,482,186	73	348	275	0	0	0	14,396	14,431	^b 995,549
2054	0	9,815,704	9,815,704	0	0	0	0	0	0	14,430	14,451	^b 1,030,649
2055	0	10,161,804	10,161,804	0	0	0	0	0	0	14,451	14,458	^b 1,066,989
2056	0	10,518,686	10,518,686	0	0	0	0	0	0	14,458	14,451	^b 1,104,462
2057	0	10,890,617	10,890,617	0	0	0	0	0	0	14,451	14,429	^b 1,143,515

^a Assumes employer makes contributions for the applicable valuation plan year in the following fiscal year.

^b Amount required to remain at 100% funded.

Actuarial Projections – Conservation Funding in 2019

Table A-3

Valuation	Total Assets													
	Plan	Number		Assets					Premium Tax			Actuarial		
	Year End 30-Jun	Active	Pay Status	Assets (boy)	Benefit Payments	Expenses	Employer Contribs.	Member Contribs.	Allocation Contribs.	Investment Income	Assets (eoy)	Accrued Liability	Unfunded Liability	Funded Ratio
2017	44	39	\$7,870,666	\$1,372,674	\$5,000	\$622,400	\$219,978	\$436,496	\$565,680	\$8,337,546	\$37,803,918	\$29,466,372	22%	
2018	42	39	8,337,546	1,354,244	9,994	585,718	222,236	427,263	372,319	8,580,844	39,536,038	30,955,194	22%	
2019	41	39	8,580,844	1,379,553	10,052	815,036	226,651	435,474	388,086	9,056,486	41,348,786	32,292,300	22%	
2020	38	40	9,056,486	1,441,830	10,129	866,580	226,302	447,875	409,518	9,554,803	43,175,151	33,620,348	22%	
2021	36	41	9,554,803	1,515,245	10,223	930,257	225,085	459,972	431,965	10,076,613	44,997,736	34,921,123	22%	
2022	35	41	10,076,613	1,566,048	10,322	970,931	226,182	470,401	455,476	10,623,234	46,854,784	36,231,550	23%	
2023	32	41	10,623,234	1,628,272	10,429	1,024,241	225,099	481,459	480,095	11,195,427	48,719,572	37,524,145	23%	
2024	30	42	11,195,427	1,716,679	10,407	1,106,593	221,222	491,702	505,851	11,793,709	50,545,942	38,752,233	23%	
2025	28	43	11,793,709	1,804,743	10,541	1,184,859	217,921	505,784	532,793	12,419,782	52,336,050	39,916,268	24%	
2026	27	44	12,419,782	1,874,243	10,682	1,243,577	216,321	519,418	560,991	13,075,164	54,118,225	41,043,061	24%	
2027	25	45	13,075,164	1,940,500	10,836	1,298,619	214,688	533,575	590,509	13,761,219	55,894,378	42,133,159	25%	
2028	24	45	13,761,219	2,010,771	11,006	1,356,441	213,171	549,025	621,410	14,479,489	57,660,588	43,181,099	25%	
2029	22	47	14,479,489	2,112,601	11,180	1,448,100	208,628	564,675	653,749	15,230,860	59,367,699	44,136,839	26%	
2030	18	50	15,230,860	2,318,851	11,360	1,651,619	192,438	582,594	687,535	16,014,835	60,829,699	44,814,864	26%	
2031	15	52	16,014,835	2,560,992	11,543	1,888,393	170,733	608,546	722,785	16,832,758	61,963,356	45,130,599	27%	
2032	13	53	16,832,758	2,759,366	11,723	2,080,970	152,550	631,867	759,572	17,686,627	62,827,164	45,140,536	28%	
2033	11	54	17,686,627	2,930,107	11,900	2,244,478	136,425	654,958	797,987	18,578,469	63,452,179	44,873,710	29%	
2034	9	55	18,578,469	3,088,571	12,077	2,395,913	120,488	677,685	838,110	19,510,017	63,841,220	44,331,203	31%	
2035	7	56	19,510,017	3,225,291	12,253	2,522,637	106,408	702,026	880,032	20,483,576	64,018,221	43,534,645	32%	
2036	6	56	20,483,576	3,325,737	12,427	2,612,003	95,944	724,263	923,854	21,501,477	64,034,332	42,532,855	34%	
2037	5	56	21,501,477	3,416,300	12,597	2,692,123	85,195	746,134	969,671	22,565,703	63,891,884	41,326,181	35%	
2038	4	56	22,565,703	3,505,740	12,762	2,770,142	73,999	769,570	1,017,575	23,678,486	63,584,053	39,905,567	37%	
2039	3	57	23,678,486	3,617,407	12,921	2,872,717	59,929	793,137	1,067,656	24,841,597	63,068,695	38,227,098	39%	
2040	2	57	24,841,597	3,745,389	13,073	2,991,016	43,150	819,933	1,120,000	26,057,235	62,307,697	36,250,461	42%	
2041	1	56	26,057,235	3,826,657	13,219	3,058,576	30,956	846,930	1,174,725	27,328,546	61,363,119	34,034,572	45%	
2042	1	56	27,328,546	3,864,701	13,359	3,080,295	23,361	872,538	1,231,968	28,658,648	60,295,696	31,637,048	48%	
2043	1	55	28,658,648	3,894,090	13,492	3,092,335	16,597	898,514	1,291,861	30,050,373	59,114,085	29,063,712	51%	
2044	0	54	30,050,373	3,908,269	13,619	3,086,478	11,345	926,071	1,354,537	31,506,916	57,837,558	26,330,642	54%	
2045	0	54	31,506,916	3,902,761	13,739	3,059,325	7,992	953,637	1,420,136	33,031,507	56,491,762	23,460,255	58%	
2046	0	53	33,031,507	3,887,186	13,853	3,020,536	5,478	982,167	1,488,802	34,627,450	55,088,269	20,460,818	63%	
2047	0	52	34,627,450	3,862,796	13,959	2,971,494	3,652	1,011,653	1,560,684	36,298,178	53,637,097	17,338,919	68%	
2048	0	51	36,298,178	3,830,730	14,056	2,913,230	2,390	1,042,329	1,635,936	38,047,278	52,146,910	14,099,632	73%	
2049	0	50	38,047,278	3,793,283	14,145	2,848,591	1,387	1,073,868	1,714,718	39,878,414	50,622,829	10,744,416	79%	
2050	0	48	39,878,414	3,750,782	14,224	2,777,390	609	1,106,873	1,797,196	41,795,476	49,069,666	7,274,190	85%	
2051	0	47	41,795,476	3,701,805	14,293	2,697,475	268	1,141,964	1,883,547	43,802,632	47,494,935	3,692,302	92%	
2052	0	46	43,802,632	3,647,916	14,350	2,610,810	180	1,178,692	1,973,954	45,904,003	45,904,001	0	100%	
2053	0	45	45,904,003	3,591,271	14,396	2,510,000	73	0	1,985,773	44,298,852	44,298,852	0	100%	
2054	0	44	44,298,852	3,531,573	14,430	2,410,000	0	0	1,914,862	42,682,142	42,682,142	0	100%	
2055	0	43	42,682,141	3,468,687	14,451	2,310,000	0	0	1,843,510	41,056,965	41,056,965	0	100%	
2056	0	42	41,056,965	3,403,291	14,458	2,210,000	0	0	1,771,832	39,425,506	39,425,506	0	100%	
2057	0	40	39,425,506	3,335,475	14,451	2,110,000	0	0	1,699,925	37,789,956	37,789,957	0	100%	

Actuarial Projections – Conservation Funding in 2019

Table A-4

Plan Year End	Benefit Payment Account ^a							Accumulation Account ^b						Statewide Employer Contribution
	Assets (boy) ^c	Net Benefit Pmts and Expenses	Employer Contribs.	6.91% ^d of Pay Member Contribs.	89.18% of Premium Tax Allocation	Investment Income	Transfer (To)/From Accumulation Account	Assets (boy) ^c	Net Benefit Pmts and Expenses	Employer Contribs.	1.50% of Pay Member Contribs.	10.82% of Premium Tax Allocation	Investment Income	
2018	\$8,337,546	\$1,364,238	\$585,718	\$222,236	\$427,263	\$372,319	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
2019	8,580,844	1,389,605	815,036	186,216	388,353	386,138	(8,966,982)	8,966,982	0	0	40,435	47,121	1,948	6,993
2020	0	1,451,959	866,580	185,966	399,413	0	0	9,056,486	0	0	40,336	48,463	409,518	16,579
2021	0	1,525,468	930,257	185,011	410,200	0	0	9,554,803	0	0	40,074	49,772	431,965	30,938
2022	0	1,576,370	970,931	185,938	419,501	0	0	10,076,614	0	0	40,244	50,900	455,476	43,260
2023	0	1,638,701	1,024,241	185,098	429,362	0	0	10,623,234	0	0	40,001	52,097	480,095	56,526
2024	0	1,727,086	1,106,593	181,996	438,497	0	0	11,195,427	0	0	39,226	53,205	505,851	73,192
2025	0	1,815,284	1,184,859	179,370	451,055	0	0	11,793,709	0	0	38,551	54,729	532,793	91,378
2026	0	1,884,925	1,243,577	178,134	463,214	0	0	12,419,782	0	0	38,187	56,204	560,991	109,078
2027	0	1,951,336	1,298,619	176,878	475,839	0	0	13,014,164	0	0	37,810	57,736	590,509	127,099
2028	0	2,021,777	1,356,441	175,719	489,617	0	0	13,761,219	0	0	37,452	59,408	621,410	146,548
2029	0	2,123,781	1,448,100	172,107	503,574	0	0	14,479,489	0	0	36,521	61,101	653,749	166,345
2030	0	2,330,211	1,651,619	159,038	519,554	0	0	15,230,860	0	0	33,400	63,040	687,535	190,711
2031	0	2,572,535	1,888,393	141,444	542,698	0	0	16,014,835	0	0	29,289	65,848	722,785	229,412
2032	0	2,771,089	2,080,970	126,624	563,495	0	0	16,832,758	0	0	25,926	68,372	759,572	265,672
2033	0	2,942,007	2,244,478	113,441	584,088	0	0	17,686,628	0	0	22,984	70,870	797,987	301,205
2034	0	3,100,648	2,395,913	100,380	604,355	0	0	18,578,469	0	0	20,108	73,330	838,110	336,777
2035	0	3,237,544	2,522,637	88,844	626,063	0	0	19,510,017	0	0	17,564	75,963	880,032	373,906
2036	0	3,338,164	2,612,003	80,267	645,894	0	0	20,483,576	0	0	15,677	78,370	923,854	408,192
2037	0	3,428,897	2,692,123	71,376	665,398	0	0	21,501,477	0	0	13,819	80,736	969,671	442,335
2038	0	3,518,502	2,770,142	62,063	686,297	0	0	22,565,703	0	0	11,936	83,272	1,017,575	477,818
2039	0	3,630,328	2,872,717	50,296	707,315	0	0	23,678,486	0	0	9,633	85,822	1,067,656	513,119
2040	0	3,758,462	2,991,016	36,234	731,212	0	0	24,841,597	0	0	6,916	88,722	1,120,000	552,538
2041	0	3,839,876	3,058,576	26,013	755,287	0	0	26,057,235	0	0	4,943	91,643	1,174,725	591,469
2042	0	3,878,060	3,080,295	19,641	778,124	0	0	27,328,546	0	0	3,720	94,414	1,231,968	626,640
2043	0	3,907,582	3,092,335	13,958	801,289	0	0	28,658,648	0	0	2,639	97,225	1,291,861	660,780
2044	0	3,921,888	3,086,478	9,545	825,865	0	0	30,050,373	0	0	1,800	100,207	1,354,537	694,889
2045	0	3,916,500	3,059,325	6,727	850,448	0	0	31,506,916	0	0	1,265	103,189	1,420,136	727,786
2046	0	3,901,039	3,020,536	4,613	875,890	0	0	33,031,507	0	0	865	106,276	1,488,802	760,559
2047	0	3,876,755	2,971,494	3,075	902,186	0	0	34,627,450	0	0	577	109,467	1,560,684	793,389
2048	0	3,844,786	2,913,230	2,013	929,543	0	0	36,298,178	0	0	377	112,786	1,635,936	826,717
2049	0	3,807,428	2,848,591	1,168	957,669	0	0	38,047,278	0	0	219	116,199	1,714,718	860,276
2050	0	3,765,006	2,777,390	513	987,103	0	0	39,878,414	0	0	96	119,770	1,797,196	893,428
2051	0	3,716,098	2,697,475	226	1,018,397	0	0	41,795,476	0	0	42	123,568	1,883,547	926,989
2052	0	3,662,113	2,610,810	152	1,051,151	0	0	43,802,633	153	0	28	127,542	1,973,954	961,121
2053	0	0	0	0	0	0	0	45,904,003	3,605,667	14,670	73	0	1,985,773	995,549
2054	0	0	0	0	0	0	0	44,298,852	3,546,003	14,431	0	0	1,914,862	1,030,649
2055	0	0	0	0	0	0	0	42,682,142	3,483,138	14,452	0	0	1,843,510	1,066,989
2056	0	0	0	0	0	0	0	41,056,966	3,417,749	14,458	0	0	1,771,832	1,104,462
2057	0	0	0	0	0	0	0	39,425,507	3,349,926	14,451	0	0	1,699,925	1,143,515

^a Employer contributions paid from the City's General Fund are used to finance benefits not covered by the applicable employee contributions or premium tax allocation.

^b Assets accumulate in the Pension and Relief Fund.

^c Includes transfer from Benefit Payment Account to Accumulation Account in Plan Year End June 30, 2042.

^d Blended employee contribution rate of 8.41% of pay less 1.50% of pay going into the Accumulation Account.

Actuarial Projections – Optional Funding in (N/A)

Table A-5

Valuation Plan	Total Assets											Actuarial Liability	Unfunded Liability	Funded Ratio
	Number		Assets (bo)	Benefit Payments	Expenses	Employer Contribs.	Member Contribs.	Premium Tax			Assets (eoy)			
	Active	Pay Status						Allocation Contribs.	Investment Income					
2017	44	39	\$7,870,666	\$1,372,674	\$5,000	\$622,400	\$219,978	\$436,496	\$565,680	\$8,337,546	\$37,803,918	\$29,466,372	22%	
2018	44	39	8,337,546	1,354,244	9,994	585,718	222,236	427,263	372,319	8,580,844	39,536,038	30,955,194	22%	
2019	44	39	8,580,844	1,379,553	10,244	626,718	233,517	435,474	384,044	8,870,800	41,383,233	32,512,433	21%	
2020	44	40	8,870,800	1,442,067	10,555	670,588	242,140	447,875	397,138	9,175,919	43,292,495	34,116,576	21%	
2021	44	41	9,175,919	1,516,210	10,991	717,529	254,363	459,972	410,795	9,491,377	45,271,723	35,780,346	21%	
2022	44	41	9,491,377	1,568,382	11,350	767,756	266,590	470,401	425,443	9,841,835	47,351,904	37,510,069	21%	
2023	44	41	9,841,835	1,632,562	11,732	821,499	277,677	481,459	441,466	10,219,642	49,513,614	39,293,972	21%	
2024	44	42	10,219,642	1,723,378	12,061	879,004	289,299	491,702	458,206	10,602,413	51,730,375	41,127,962	20%	
2025	44	43	10,602,413	1,814,433	12,560	940,534	302,802	505,784	475,376	10,999,915	54,015,504	43,015,589	20%	
2026	44	44	10,999,915	1,887,625	13,033	1,006,371	317,441	519,418	493,718	11,436,205	56,399,058	44,962,853	20%	
2027	44	45	11,436,205	1,958,262	13,512	1,076,817	332,408	533,575	513,984	11,921,215	58,888,859	46,967,644	20%	
2028	44	46	11,921,215	2,033,476	14,028	1,152,194	348,907	549,025	536,513	12,460,350	61,492,685	49,032,335	20%	
2029	44	47	12,460,350	2,140,772	14,538	1,232,848	362,662	564,675	560,825	13,026,050	64,168,225	51,142,175	20%	
2030	44	50	13,026,050	2,353,059	15,151	1,319,147	369,265	582,594	584,009	13,512,855	66,757,349	53,244,494	20%	
2031	44	52	13,512,855	2,601,990	16,085	1,411,487	384,184	608,546	603,320	13,902,317	69,253,891	55,351,574	20%	
2032	44	54	13,902,317	2,808,464	16,889	1,510,291	399,327	631,867	619,287	14,237,736	71,713,565	57,475,829	20%	
2033	44	55	14,237,736	2,988,843	17,646	1,616,011	415,888	654,958	633,586	14,551,690	74,173,221	59,621,531	20%	
2034	44	56	14,551,690	3,158,213	18,379	1,729,132	432,803	677,685	647,328	14,862,046	76,645,494	61,783,448	19%	
2035	44	57	14,862,046	3,307,091	19,122	1,850,171	453,187	702,026	661,653	15,202,870	79,172,099	63,969,229	19%	
2036	44	57	15,202,870	3,420,975	19,769	1,979,683	474,376	724,263	678,290	15,618,738	81,800,826	66,182,088	19%	
2037	44	58	15,618,738	3,526,354	20,394	2,118,261	494,786	746,134	698,669	16,129,841	84,544,177	68,414,336	19%	
2038	44	58	16,129,841	3,631,684	21,038	2,266,539	515,466	769,570	723,592	16,752,285	87,411,004	70,658,719	19%	
2039	44	59	16,752,285	3,762,257	21,681	2,425,197	532,648	793,137	753,119	17,472,448	90,362,293	72,889,845	19%	
2040	44	59	17,472,448	3,917,377	22,430	2,594,961	550,929	819,933	786,839	18,285,303	93,382,017	75,096,714	20%	
2041	44	59	18,285,303	4,036,267	23,178	2,776,608	573,009	846,930	825,889	19,248,295	96,528,642	77,280,347	20%	
2042	44	60	19,248,295	4,126,271	23,860	2,970,971	595,567	872,538	872,603	20,409,843	99,842,641	79,432,798	20%	
2043	44	60	20,409,843	4,222,401	24,561	3,178,939	617,847	898,514	928,419	21,786,600	103,322,416	81,535,816	21%	
2044	44	60	21,786,600	4,320,622	25,306	3,401,465	641,987	926,071	994,274	23,404,469	106,978,007	83,573,538	22%	
2045	44	60	23,404,469	4,419,975	26,058	3,639,568	667,153	953,637	1,071,321	25,290,116	110,820,791	85,530,675	23%	
2046	44	61	25,290,116	4,529,228	26,836	3,894,338	693,037	982,167	1,160,607	27,464,202	114,855,384	87,391,182	24%	
2047	44	61	27,464,202	4,647,217	27,641	4,166,942	719,922	1,011,653	1,263,119	29,950,979	119,085,552	89,134,573	25%	
2048	44	61	29,950,979	4,775,106	28,476	4,458,628	747,773	1,042,329	1,379,952	32,776,079	123,517,315	90,741,236	27%	
2049	44	61	32,776,079	4,913,651	29,336	4,770,732	774,854	1,073,868	1,512,229	35,964,774	128,152,751	92,187,977	28%	
2050	44	62	35,964,774	5,062,138	30,235	5,104,683	801,538	1,106,873	1,661,156	39,546,651	132,984,743	93,438,092	30%	
2051	44	62	39,546,651	5,223,782	31,197	5,462,011	829,821	1,141,964	1,828,083	43,553,552	138,007,215	94,453,663	32%	
2052	44	63	43,553,552	5,404,763	32,204	5,844,352	858,563	1,178,692	2,014,309	48,012,501	143,217,068	95,204,567	34%	
2053	44	63	48,012,501	5,602,976	33,254	6,253,457	887,377	1,217,074	2,221,127	52,955,305	148,603,716	95,648,411	36%	
2054	44	64	52,955,305	5,820,667	34,358	6,691,199	917,704	1,257,373	2,449,996	58,416,552	154,157,587	95,741,035	38%	
2055	44	65	58,416,552	6,058,748	35,505	7,159,583	949,763	1,299,509	2,702,502	64,433,656	159,876,615	95,442,959	40%	
2056	44	65	64,433,656	6,313,647	36,681	7,660,754	983,132	1,342,954	2,980,436	71,050,604	165,761,000	94,710,396	43%	
2057	44	66	71,050,604	6,582,171	37,886	8,197,007	1,018,689	1,387,780	3,285,918	78,319,941	171,816,358	93,496,417	46%	

Actuarial Projections – Optional Funding in (N/A)

Table A-6

Valuation Plan Year End 30-Jun ^{a,b}	Employer Contributions								Minimum Payment			Statewide Employer Contribution
	Total Payroll	Employee Contributions	Gross Normal Cost	Net Employer Normal Cost	Amortization of UAAL	Premium Tax Allocation Contributions	Net Employer Amortization	Expenses	Optional Employer Contribution	Alternative Employer Contribution	Minimum Employer Contribution	
2018	\$2,643,190	\$222,236	\$1,384,492	\$1,162,256	\$1,704,895	\$435,474	\$1,269,421	\$9,994	\$2,441,671	\$626,718	\$626,718	\$0
2019	2,762,235	233,517	1,446,481	1,212,964	1,816,738	447,875	1,368,863	10,244	2,592,071	670,588	670,588	0
2020	2,846,930	242,140	1,488,733	1,246,593	1,937,179	459,972	1,477,207	10,555	2,734,355	717,529	717,529	0
2021	2,966,261	254,363	1,548,002	1,293,639	2,065,620	470,401	1,595,219	10,991	2,899,849	767,756	767,756	0
2022	3,094,958	266,590	1,612,357	1,345,768	2,203,580	481,459	1,722,121	11,350	3,079,239	821,499	821,499	0
2023	3,205,093	277,677	1,665,183	1,387,506	2,352,348	491,702	1,860,646	11,732	3,259,885	879,004	879,004	0
2024	3,312,159	289,299	1,715,212	1,425,913	2,512,224	505,784	2,006,440	12,061	3,444,415	940,534	940,534	0
2025	3,440,346	302,802	1,776,372	1,473,571	2,684,119	519,418	2,164,701	12,560	3,650,832	1,006,371	1,006,371	0
2026	3,584,640	317,441	1,845,919	1,528,477	2,869,624	533,575	2,336,049	13,033	3,877,560	1,076,817	1,076,817	0
2027	3,731,167	332,408	1,916,027	1,583,618	3,070,756	549,025	2,521,731	13,512	4,118,861	1,152,194	1,152,194	0
2028	3,892,519	348,907	1,993,871	1,644,964	3,289,299	564,675	2,724,624	14,028	4,383,615	1,232,848	1,232,848	0
2029	4,018,975	362,662	2,057,131	1,694,469	3,527,704	582,594	2,945,110	14,538	4,654,117	1,319,147	1,319,147	0
2030	4,042,950	369,265	2,067,889	1,698,624	3,787,626	608,546	3,179,080	15,151	4,892,855	1,411,487	1,411,487	0
2031	4,137,491	384,184	2,113,566	1,729,381	4,068,256	631,867	3,436,389	16,085	5,181,856	1,510,291	1,510,291	0
2032	4,258,586	399,327	2,175,614	1,776,287	4,374,066	654,958	3,719,108	16,889	5,512,284	1,616,011	1,616,011	0
2033	4,400,878	415,888	2,249,048	1,833,161	4,710,481	677,685	4,032,796	17,646	5,883,603	1,729,132	1,729,132	0
2034	4,547,964	432,803	2,323,685	1,890,882	5,083,469	702,026	4,381,443	18,379	6,290,703	1,850,171	1,850,171	0
2035	4,731,976	453,187	2,418,182	1,964,995	5,499,662	724,263	4,775,399	19,122	6,759,515	1,979,683	1,979,683	0
2036	4,932,653	474,376	2,522,110	2,047,734	5,968,769	746,134	5,222,635	19,769	7,290,139	2,118,261	2,118,261	0
2037	5,133,971	494,786	2,624,965	2,130,178	6,502,880	769,570	5,733,310	20,394	7,883,882	2,266,539	2,266,539	0
2038	5,346,394	515,466	2,733,343	2,217,877	7,116,797	793,137	6,323,660	21,038	8,562,575	2,425,197	2,425,197	0
2039	5,529,043	532,648	2,828,578	2,295,930	7,830,596	819,933	7,010,663	21,681	9,328,274	2,594,961	2,594,961	0
2040	5,723,303	550,929	2,931,189	2,380,259	8,669,915	846,930	7,822,985	22,430	10,225,675	2,776,608	2,776,608	0
2041	5,962,546	573,009	3,055,622	2,482,613	9,673,312	872,538	8,800,774	23,178	11,306,565	2,970,971	2,970,971	0
2042	6,216,016	595,567	3,185,644	2,590,077	10,899,318	898,514	10,000,804	23,860	12,614,742	3,178,939	3,178,939	0
2043	6,469,069	617,847	3,315,349	2,697,502	12,436,249	926,071	11,510,178	24,561	14,232,241	3,401,465	3,401,465	0
2044	6,738,009	641,987	3,453,214	2,811,228	14,425,065	953,637	13,471,428	25,306	16,307,961	3,639,568	3,639,568	0
2045	7,015,597	667,153	3,594,717	2,927,564	17,110,035	982,167	16,127,868	26,058	19,081,490	3,894,338	3,894,338	0
2046	7,301,082	693,037	3,739,988	3,046,951	20,953,006	1,011,653	19,941,353	26,836	23,015,139	4,166,942	4,166,942	0
2047	7,594,527	719,922	3,889,269	3,169,347	26,943,797	1,042,329	25,901,468	27,641	29,098,456	4,458,628	4,458,628	0
2048	7,898,644	747,773	4,044,187	3,296,414	37,654,551	1,073,868	36,580,683	28,476	39,905,573	4,770,732	4,770,732	0
2049	8,207,705	774,854	4,201,889	3,427,035	62,518,248	1,106,873	61,411,375	29,336	64,867,746	5,104,683	5,104,683	0
2050	8,515,251	801,538	4,358,223	3,556,685	94,239,380	1,141,964	93,097,416	30,235	96,684,335	5,462,011	5,462,011	0
2051	8,831,293	829,821	4,517,748	3,687,926	95,517,313	1,178,692	94,338,621	31,197	98,057,744	5,844,352	5,844,352	0
2052	9,155,423	858,563	4,680,925	3,822,362	96,555,482	1,217,074	95,338,408	32,204	99,192,974	6,253,457	6,253,457	0
2053	9,482,186	887,377	4,845,283	3,957,907	97,323,096	1,257,373	96,065,723	33,254	100,056,884	6,691,199	6,691,199	0
2054	9,815,704	917,704	5,013,004	4,095,301	97,776,817	1,299,509	96,477,308	34,358	100,524,937	7,159,583	7,159,583	0
2055	10,161,804	949,763	5,187,490	4,237,727	97,871,501	1,342,954	96,528,547	35,505	100,309,492	7,660,754	7,660,754	0
2056	10,518,686	983,132	5,368,442	4,385,311	97,566,793	1,387,780	96,179,013	36,681	99,658,192	8,197,007	8,197,007	0
2057	10,890,617	1,018,689	5,557,974	4,539,285	96,817,929	1,433,876	95,384,053	37,886	98,528,584	8,770,797	8,770,797	0

^a Assumes sponsor selects Optional funding policy if contributions are lower.

^b Assumes employer makes contributions for the applicable valuation plan year in the following fiscal year.

^c Amount required to remain at 100% funded.

Actuarial Projections – Conservation Funding in 2042

Table A-7

Valuation Plan Year End 30-Jun	Number		Total Assets								Actuarial Accrued Liability	Unfunded Liability	Funded Ratio
	Active	Status	Assets (boy)	Benefit Payments	Expenses	Employer Contribs.	Member Contribs.	Premium Tax		Assets (eoy)			
								Allocation Contribs.	Investment Income				
2017	44	39	\$7,870,666	\$1,372,674	\$5,000	\$622,400	\$219,978	\$436,496	\$565,680	\$8,337,546	\$37,803,918	\$29,466,372	22%
2018	44	39	8,337,546	1,354,244	9,994	585,718	222,236	427,263	372,319	8,580,844	39,536,038	30,955,194	22%
2019	44	39	8,580,844	1,379,553	10,244	626,718	233,517	435,474	384,044	8,870,800	41,383,233	32,512,433	21%
2020	44	40	8,870,800	1,442,067	10,555	670,588	242,140	447,875	397,138	9,175,919	43,292,495	34,116,576	21%
2021	44	41	9,175,919	1,516,210	10,991	717,529	254,363	459,972	410,795	9,491,377	45,271,723	35,780,346	21%
2022	44	41	9,491,377	1,568,382	11,350	767,756	266,590	470,401	425,443	9,841,835	47,351,904	37,510,069	21%
2023	44	41	9,841,835	1,632,562	11,732	821,499	277,677	481,459	441,466	10,219,642	49,513,614	39,293,972	21%
2024	44	42	10,219,642	1,723,378	12,061	879,004	289,299	491,702	458,205	10,602,413	51,730,375	41,127,962	20%
2025	44	43	10,602,413	1,814,433	12,560	940,534	302,802	505,784	475,376	10,999,916	54,015,504	43,015,588	20%
2026	44	44	10,999,916	1,887,625	13,033	1,006,371	317,441	519,418	493,718	11,436,206	56,399,058	44,962,852	20%
2027	44	45	11,436,206	1,958,262	13,512	1,076,817	332,408	533,575	513,985	11,921,217	58,888,859	46,967,642	20%
2028	44	46	11,921,217	2,033,476	14,028	1,152,194	348,907	549,025	536,513	12,460,352	61,492,685	49,032,333	20%
2029	44	47	12,460,352	2,140,772	14,538	1,232,848	362,662	564,675	560,824	13,026,051	64,168,225	51,142,174	20%
2030	44	50	13,026,051	2,353,059	15,151	1,319,147	369,265	582,594	584,009	13,512,856	66,757,349	53,244,493	20%
2031	44	52	13,512,856	2,601,990	16,085	1,411,487	384,184	608,546	603,320	13,902,318	69,253,891	55,351,573	20%
2032	44	54	13,902,318	2,808,464	16,889	1,510,291	399,327	631,867	619,288	14,237,738	71,713,565	57,475,827	20%
2033	44	55	14,237,738	2,988,843	17,646	1,616,011	415,888	654,958	633,586	14,551,692	74,173,221	59,621,529	20%
2034	44	56	14,551,692	3,158,213	18,379	1,729,132	432,803	677,685	647,328	14,862,048	76,645,494	61,783,446	19%
2035	44	57	14,862,048	3,307,091	19,122	1,850,171	453,187	702,026	661,653	15,202,872	79,172,099	63,969,227	19%
2036	44	57	15,202,872	3,420,975	19,769	1,979,683	474,376	724,263	678,290	15,618,740	81,800,826	66,182,086	19%
2037	44	58	15,618,740	3,526,354	20,394	2,118,261	494,786	746,134	698,669	16,129,842	84,544,177	68,414,335	19%
2038	44	58	16,129,842	3,631,684	21,038	2,266,539	515,466	769,570	723,592	16,752,287	87,411,004	70,658,717	19%
2039	44	59	16,752,287	3,762,257	21,681	2,425,197	532,648	793,137	753,120	17,472,451	90,362,293	72,889,842	19%
2040	44	59	17,472,451	3,917,377	22,430	2,594,961	550,929	819,933	786,839	18,285,306	93,382,017	75,096,711	20%
2041	41	59	18,285,306	4,036,267	23,178	2,776,608	573,009	846,930	825,890	19,248,298	96,528,642	77,280,344	20%
2042	39	60	19,248,298	4,126,271	23,258	2,901,075	568,540	872,538	870,460	20,311,382	99,707,033	79,395,651	20%
2043	37	60	20,311,382	4,221,467	23,372	2,979,015	562,422	898,514	918,354	21,424,847	102,895,210	81,470,363	21%
2044	35	60	21,424,847	4,317,063	23,514	3,056,223	555,920	926,071	968,516	22,591,000	106,084,069	83,493,069	21%
2045	32	60	22,591,000	4,412,217	23,679	3,132,695	549,732	953,637	1,021,049	23,812,217	109,273,871	85,461,654	22%
2046	31	60	23,812,217	4,515,916	23,866	3,217,654	542,661	982,167	1,076,060	25,090,977	112,453,742	87,362,765	22%
2047	29	61	25,090,977	4,627,150	24,068	3,310,063	534,685	1,011,653	1,133,660	26,429,820	115,609,820	89,180,000	23%
2048	27	61	26,429,820	4,746,890	24,285	3,410,981	525,510	1,042,329	1,193,963	27,831,428	118,728,284	90,896,856	23%
2049	25	61	27,831,428	4,875,830	24,514	3,522,962	513,486	1,073,868	1,257,087	29,298,487	121,790,871	92,492,384	24%
2050	23	62	29,298,487	5,013,248	24,754	3,644,947	498,199	1,106,873	1,323,150	30,833,654	124,764,890	93,931,236	25%
2051	21	62	30,833,654	5,162,442	25,008	3,778,828	480,484	1,141,964	1,392,273	32,439,754	127,611,433	95,171,679	25%
2052	20	63	32,439,754	5,329,608	25,272	3,931,854	459,752	1,178,692	1,464,583	34,119,756	130,295,895	96,176,139	26%
2053	18	63	34,119,756	5,512,377	25,543	4,102,118	435,415	1,217,074	1,540,211	35,876,653	132,774,193	96,897,540	27%
2054	16	64	35,876,653	5,712,751	25,820	4,290,610	408,209	1,257,373	1,619,292	37,713,566	134,998,176	97,284,610	28%
2055	14	64	37,713,566	5,931,616	26,102	4,497,947	378,588	1,299,509	1,701,969	39,633,861	136,926,765	97,292,904	29%
2056	12	65	39,633,861	6,165,025	26,386	4,720,556	346,694	1,342,954	1,788,392	41,641,047	138,522,422	96,881,375	30%
2057	11	65	41,641,047	6,409,503	26,671	4,954,305	313,154	1,387,780	1,878,722	43,738,834	139,750,753	96,011,919	31%

Actuarial Projections – Conservation Funding in 2042

Table A-8

Plan Year End 30-Jun	Benefit Payment Account ^a						Accumulation Account ^b						Minimum Payment			Statewide Employer Contribution
	Assets (boy)	Net Benefit Pmts and Expenses	Employer Contribs.	6.91% ^d of Pay Member Contribs.	88.16% of Premium Tax Allocation	Investment Income	Assets (boy) ^c	Net Benefit Pmts and Expenses	Employer Contribs.	1.50% of Pay Member Contribs.	11.84% of Premium Tax Allocation	Investment Income	Conservation Employer Cont.	Alternative Employer Cont.	Minimum Alt /Cons Cont.	
2018	\$8,337,546	\$1,364,238	\$585,718	\$222,236	\$427,263	\$372,319	\$0	\$0	\$0	\$0	\$0	\$0	NA	\$585,718	\$585,718	\$0
2019	8,580,844	1,389,797	626,718	233,517	435,474	384,044	0	0	0	0	0	0	NA	626,718	626,718	0
2020	8,870,800	1,452,622	670,588	242,140	447,875	397,138	0	0	0	0	0	0	NA	670,588	670,588	0
2021	9,175,919	1,527,201	717,529	254,363	459,972	410,795	0	0	0	0	0	0	NA	717,529	717,529	0
2022	9,491,377	1,579,732	767,756	266,590	470,401	425,443	0	0	0	0	0	0	NA	767,756	767,756	0
2023	9,841,836	1,644,294	821,499	277,677	481,459	441,466	0	0	0	0	0	0	NA	821,499	821,499	0
2024	10,219,642	1,735,439	879,004	289,299	491,702	458,205	0	0	0	0	0	0	NA	879,004	879,004	0
2025	10,602,413	1,826,993	940,534	302,802	505,784	475,376	0	0	0	0	0	0	NA	940,534	940,534	0
2026	10,999,916	1,900,658	1,006,371	317,441	519,418	493,718	0	0	0	0	0	0	NA	1,006,371	1,006,371	0
2027	11,436,206	1,971,774	1,076,817	332,408	533,575	513,985	0	0	0	0	0	0	NA	1,076,817	1,076,817	0
2028	11,921,217	2,047,504	1,152,194	348,907	549,025	536,513	0	0	0	0	0	0	NA	1,152,194	1,152,194	0
2029	12,460,352	2,155,310	1,232,848	362,662	564,675	560,824	0	0	0	0	0	0	NA	1,232,848	1,232,848	0
2030	13,026,051	2,368,210	1,319,147	369,265	582,594	584,009	0	0	0	0	0	0	NA	1,319,147	1,319,147	0
2031	13,512,856	2,618,075	1,411,487	384,184	608,546	603,320	0	0	0	0	0	0	NA	1,411,487	1,411,487	0
2032	13,902,318	2,825,353	1,510,291	399,327	631,867	619,288	0	0	0	0	0	0	NA	1,510,291	1,510,291	0
2033	14,237,738	3,006,489	1,616,011	415,888	654,958	633,586	0	0	0	0	0	0	NA	1,616,011	1,616,011	0
2034	14,551,692	3,176,592	1,729,132	432,803	677,685	647,328	0	0	0	0	0	0	NA	1,729,132	1,729,132	0
2035	14,862,048	3,326,213	1,850,171	453,187	702,026	661,653	0	0	0	0	0	0	NA	1,850,171	1,850,171	0
2036	15,202,872	3,440,744	1,979,683	474,376	724,263	678,290	0	0	0	0	0	0	NA	1,979,683	1,979,683	0
2037	15,618,740	3,546,748	2,118,261	494,786	746,134	698,669	0	0	0	0	0	0	NA	2,118,261	2,118,261	0
2038	16,129,842	3,652,722	2,266,539	515,466	769,570	723,592	0	0	0	0	0	0	NA	2,266,539	2,266,539	0
2039	16,752,287	3,783,938	2,425,197	532,648	793,137	753,120	0	0	0	0	0	0	NA	2,425,197	2,425,197	0
2040	17,472,451	3,939,807	2,594,961	550,929	819,933	786,839	0	0	0	0	0	0	NA	2,594,961	2,594,961	0
2041	18,285,306	4,059,445	2,776,608	573,009	846,930	825,890	0	0	0	0	0	0	NA	2,776,608	2,776,608	0
2042	19,248,298	4,149,529	2,901,075	479,232	769,222	866,173	20,114,471	0	769,222	89,308	103,316	4,286	2,901,075	2,970,971	2,901,075	27,528
2043	0	4,244,839	2,979,015	473,702	792,122	0	20,311,381	0	0	88,720	106,391	918,354	2,979,015	3,178,939	2,979,015	58,214
2044	0	4,340,577	3,056,223	467,937	816,417	0	21,424,846	0	0	87,983	109,654	968,516	3,056,223	3,401,465	3,056,223	91,609
2045	0	4,435,896	3,132,695	462,482	840,719	0	22,591,000	0	0	87,250	112,918	1,021,049	3,132,695	3,639,568	3,132,695	125,887
2046	0	4,539,782	3,217,654	456,258	865,870	0	23,812,217	0	0	86,403	116,297	1,076,060	3,217,654	3,894,338	3,217,654	161,794
2047	0	4,651,218	3,310,063	449,290	891,865	0	25,090,977	0	0	85,395	119,788	1,133,660	3,310,063	4,166,942	3,310,063	199,661
2048	0	4,771,175	3,410,981	441,285	918,909	0	26,429,819	0	0	84,225	123,420	1,193,962	3,410,981	4,458,628	3,410,981	239,786
2049	0	4,900,344	3,522,962	430,669	946,713	0	27,831,427	0	0	82,817	127,155	1,257,087	3,522,962	4,770,732	3,522,962	282,090
2050	0	5,038,002	3,644,947	417,245	975,810	0	29,298,485	0	0	80,954	131,063	1,323,150	3,644,947	5,104,683	3,644,947	327,425
2051	0	5,187,450	3,778,828	401,875	1,006,747	0	30,833,652	0	0	78,609	135,218	1,392,273	3,778,828	5,462,011	3,778,828	377,022
2052	0	5,354,880	3,931,854	383,900	1,039,126	0	32,439,752	0	0	75,852	139,567	1,464,582	3,931,854	5,844,352	3,931,854	430,355
2053	0	5,537,920	4,102,118	362,840	1,072,962	0	34,119,752	0	0	72,575	144,111	1,540,211	4,102,118	6,253,457	4,102,118	487,601
2054	0	5,738,571	4,290,610	339,471	1,108,490	0	35,876,650	0	0	68,738	148,883	1,619,292	4,290,610	6,691,199	4,290,610	549,481
2055	0	5,957,718	4,497,947	314,134	1,145,637	0	37,713,563	0	0	64,454	153,872	1,701,969	4,497,947	7,159,583	4,497,947	615,811
2056	0	6,191,411	4,720,556	286,917	1,183,938	0	39,633,858	0	0	59,777	159,017	1,788,392	4,720,556	7,660,754	4,720,556	686,022
2057	0	6,436,174	4,954,305	258,413	1,223,456	0	41,641,044	0	0	54,741	164,324	1,878,722	4,954,305	8,197,007	4,954,305	760,326

^a Employer contributions paid from the City's General Fund are used to finance benefits not covered by the applicable employee contributions or premium tax allocation.

^b Assets accumulate in the Pension and Relief Fund.

^c Includes transfer from Benefit Payment Account to Accumulation Account in Plan Year End June 30, 2042.

^d Blended employee contribution rate of 8.41% of pay less 1.50% of pay going into the Accumulation Account.